The Milroy Lectures
ON
PUBLIC HEALTH AND HOUSING:
THE INFLUENCE OF THE DWELLING UPON HEALTH IN RELATION TO THE CHANGING STYLE OF HABITATION.

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LECTURE III.[1]

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DOMESTIC CONVENIENCES.

MR. PRESIDENT AND GENTLEMEN,—Domestic conveniences provide, in proximity to the dwelling, for the supply of fresh water, the removal of soiled water and of excreta, and the temporary storage of refuse. The supply of water in its simplest form implies a draw-tap and drip sink; this enlarged becomes a wash-sink, and elaborated is inclosed in a scullery; this again by the addition of a copper becomes a scullery and washhouse. The draw-tap and sink are a mere matter of plumbing and may be placed anywhere convenient, but the scullery is a matter of construction and greater expense. Hence, according to the class of dwelling, it is found that the domestic water-supply may assume any of the above forms and may be without or within the dwelling, and may be in common or in sole use. A few general principles can be evolved from the various methods adopted. Draw-taps in common use are found placed on balconies, in lobbies, on staircases, in sculleries, and occasionally in water-closets—the last is a very objectionable situation. In sole use, they are found, in addition to the above, in the dwelling-room or in a scullery attached. The essential points to insist upon appear to be that in houses of flats there should be water-supply on each floor; that when the appliances are used in common they should not be overcrowded by users, but that separate provision should be made for at least every two dwellings or families, and that the supply should be either within the precincts of the dwelling or situated as closely as possible to the dwelling. When economy will not permit of sculleries or of sculleries of sufficient size or so constructed as to admit of washing coppers, it is usual to provide a common washhouse, either for the whole house, or for a block of houses, or for several blocks of houses; on the last scale they practically become public washhouses, to which hot and cold baths may be attached, the privacy with each step being diminished. One form of provision for washing found occasionally in working-class dwellings is very objectionable—namely, the placing of portable coppers in inclosed spaces without windows or other possible opening into the outer air; this opening should be a *sine qua non*, and the steam vapours should also be shut off from the interior of the dwelling.

With reference to water-closets economy also dictates whether the construction of the dwellings shall be such as to include the water-closet within its precincts or exclude it, and whether it shall be in sole or common usage. By a by-law now applicable to all houses in London one water-closet must be provided for every 12 persons, and it is generally so arranged to provide the necessary water-closets on each floor in new flats, but it is not compulsory, although it should be so. It is also now provided by a by-law that a water-closet must not be constructed so that it is approached directly from any room used for human habitation or as a work-place, or for preparing or storing food. This ought not to be interpreted that by merely multiplying the number of doors the object of aerial disconnexion is necessarily attained. They must also now in all houses be constructed against an outer wall, and be ventilated by windows into the open air. In the regulations as to the designing of buildings approved by the London County Council on Dec. 3rd, 1889, it was provided that the doors of water-closets should open directly into the open air, and this was conveniently arranged by means of open lobbies, but now this precaution is no longer taken, and many water-closets open on to inclosed common staircases. It should be one of the essential points in houses constructed in flats that the water-closets should be cut off by open lobbies, the open lobby being utilised also as a place of deposit for the dust receptacle and any offensive matter. The Local Government Board in new buildings insist upon lobbies between water-closets and dwellings being permanently ventilated into the open air, and it is to be regretted that the London County Council should fill these openings in.

The London County Council has done so much good work in the construction of working-class dwellings that it might appear captious to take exception to certain points in the arrangements of some of them, were it not that every detail becomes of increasing importance with the increase in the size of domestic buildings and in the number of human beings which they house, and that the Council's buildings may be taken as models by many of the bodies that have constructed artisans' dwellings, many of which do not come up to the healthy standard set by the Council, and to which all the critical comments that have been made apply with much greater force in many instances.

The storage of refuse is a great difficulty, and it is to be regretted that it is not compulsory to provide a modicum of open space, lobby, or balcony on each floor level of dwelling-houses constructed in flats as a place of deposit for the dust receptacle and any offensive refuse as well as a means of access to the water-closet. The dust receptacle requires to be simply a portable metal bin. Dust shoots as a means of transferring the contents of individual bins into the common dustbin are condemned as abominations. For the dustmen to fetch bins from each of the many dwellings, in large houses several storeys high, and to empty them directly into the vans is impracticable on a large scale. It remains, therefore, for the occupier to empty at night or morning the private bin into the common bin or bins either by hand, or, in better-class houses, by hand-lift. By means of duplicate bins the common bin and any transfer of refuse can be dispensed with. It is indispensable that the public collection of refuse should be made daily from houses constructed in flats.

The water-supply and drainage of houses are governed by statutes, by-laws, and regulations that need not here be detailed.

ECONOMIES PRACTISED.

It is in the power of anyone to design and erect buildings, and the economies practised in designing dwellings may be briefly summarised as:—diminishing the width, increasing the length, and lowering the height of rooms, extending the number of rooms of a dwelling along one front, reducing the number and size or abolishing the open lobbies, reducing the number and size of the sculleries and washhouses or providing none, reducing the number of water-closets and wedging them in, increasing the number of storeys vertically and increasing their extension laterally, multiplying the number of dwellings on each floor by means of corridors and balconies, and increasing the height, depth, and breadth of the houses. Excess in these directions will require more regulation and control in the future type than has been exercised in the past type of house, as the effects of unhealthy conditions will be multiplied in proportion to the increase in size of the buildings and in the number of inmates.

The economies of usage, the overcrowding of rooms, dwellings, houses, domestic conveniences, and sanitary appliances, and the sub-letting and sub-dividing of houses and dwellings will also require more supervision to prevent deterioration.

Attention may be directed to the fact that construction and usage are more or less distinct from each other, and that whereas construction is permanent usage may be altered at any moment. Happily in London, under Section 211 of the Building Act of 1894, the conversion of dwelling houses, dwellings, and dwelling-rooms from or to *other* uses cannot be made without alteration in conformity with the Act.

The resident superintendent, or caretaker, in "flats" is a great protection to dwellings whether occupied by the richer or by the poorer classes. In working class dwellings he selects the tenants, keeps the more unruly elements under control and the rents paid up without entangling

[1] Lectures I. and II. were published in THE LANCET of March 2nd (p. 599), and 9th (p. 679), 1901, respectively.

arrears; he keeps the parts used in common in repair and cleansed and sees that those parts used separately are kept cleansed and in order. He also performs the function of keeping out intruders from the common courtyard or common staircase, a great protection to the dwellings and the occupants. In Scotland the common stair is generally protected by a door with a special lock to which each tenant has a key. On the continent large houses built round courtyards with *porte-cochères* generally have a *concierge's* lodge at the entrance, and houses not so built are generally entered through the *concierge's* quarters. These forms of protection are generally absent in the tenement houses of London, to the disadvantage of both owners and occupiers—a doubtful economy.

CERTIFICATES AS TO NEW DWELLINGS.

In the metropolis a house newly erected or rebuilt cannot be occupied as a dwelling-house until the sanitary authority have certified that it has a proper and sufficient supply of water. No similar certificate is required as to the drainage, but by statute it must be laid as the sanitary authority order, and under their control and supervision, and sanitary conveniences must comply with the by-laws. There is no reason why a certificate should not also be required as to the drainage.

By the Customs and Inland Revenue Act, 1890, section 26, the assessment to inhabited house duty of any house originally built, or adapted by additional alterations, and used for the sole purpose of providing separate dwellings for persons at rents not exceeding for each dwelling the rate of 7*s.* 6*d.* per week and occupied only by persons paying such rents, shall be discharged by the commissioners, provided that a certificate of the medical officer of health of the district in which the house is situated shall be produced to them to the effect that the house is so constructed as to afford suitable accommodation for each of the families or persons inhabiting it and that due provision is made for sanitary requirements. The medical officer of health of a district on request by the person who would be liable to pay the house-duty on any house in the district if the duty were not discharged as aforesaid, shall examine the house for the purpose of ascertaining whether such certificate can properly be given, and if the house be constructed so as to afford such accommodation and due provision be made as aforesaid, shall certify the same accordingly. And by the Customs and Inland Revenue Act, 1891, Section 4, Sub-section 2 of Section 26 of the Customs and Inland Revenue Act, 1890, is amended by the substitution of the words "where the annual value of each dwelling shall not amount to twenty pounds" for the words "for persons at rents not exceeding for each dwelling the rate of 7*s.* 6*d.* a week and occupied only by persons paying such rents." In the case of any house originally built or adapted by additions or alterations and used, so far as the same is used as a dwelling-house, for the sole purpose of providing separate dwellings at an annual value not exceeding £40 for each dwelling, the commissioners shall, upon the production of such a certificate as is mentioned, grant relief by confining the assessment to the annual value of the house exclusive of every dwelling therein of an annual value below £20 (if any) and by reducing the rate of duty to 3*d.* The provisions of the sub-section in relation to a certificate apply to a certificate to be produced under this section. This certificate refers to construction and fitting and the medical officer of health must be guided not only by medical and statistical experience but also must have some knowledge of the construction of buildings, especially from the point of view of design and arrangement, so as to be able to form a reasonable opinion. It will be observed that the certificate is to be given after the building has been erected and occupied and that there is no proviso for the medical officer of health to peruse the plans of proposed buildings before this, much to the disadvantage of the owner, as he may be refused a certificate which some modification at the proper time might have justified. It will also be noticed that it is a most expansive and comprehensive certificate if the words of the Act are used only,[2] but the certificate should be framed in such a form as to define clearly the points to which it refers and how they are provided for.

In new buildings "originally built" to be occupied in separate dwellings the minimum requirements should be: (1) that the buildings are constructed in conformity with the building Acts and by-laws, especially as to damp courses, concreted basements, &c.; (2) that the water-supply is in conformity with the by-laws and regulations; (3) that the drainage is in accordance with by-laws and regulations; (4) that the common staircase is permanently ventilated at each floor level or by through ventilation, so as to break the common air-connexion; (5) that each dwelling is so arranged as to be through ventilated from one front to another; (6) that each of the habitable rooms is at least eight feet six inches in height and 96 square feet in area, and has a fireplace and chimney-flue; (7) that there is at least one draw-tap and sink, with a constant supply of water thereto, for every 12 occupants or less on each floor; (8) that there is at least one water-closet, properly and efficiently supplied with water, for every 12 occupants or less on each floor disconnected aerially from any dwelling in the interior of the building; (9) that on each floor a sufficient space or open lobby is provided accessible to, and for the use of, each family on each floor for the deposit of refuse, &c.; and (10) that accommodation for clothes-washing is provided sufficient for each family to occupy the wash-house or appliances one day each week.

In existing buildings "adapted by additional alterations" to be occupied in separate dwellings the minimum structural alterations for adaptation should require to be: (1) that the common staircase should be amply and permanently ventilated into the open air; (2) that the dwellings should be ventilated through from one front to another; (3) that the water-supply should be in conformity with statute, by-laws, and regulations; (4) that there should be a draw-tap and sink provided on each floor for every 12 persons or less; (5) that the drainage should be in conformity with statute, by-laws, and regulations; (6) that clothes-washing accommodation should be provided for each family at least one day a week; (7) that there should be water-closet accommodation for every 12 persons or less on each floor properly cut off aerially from the dwelling; and (8) that there should be an open lobby space or balcony on each floor as a place of deposit for the dust receptacle and offensive refuse.

I have never been asked to certify any existing building "adapted by additional alterations," nor have I heard of any such request being made elsewhere. It may be assumed that the return of inhabited house duty is not sufficient inducement to incur the expense of alteration. The house-duty is a tax from which there are many exemptions, amongst others houses under £20 a year are exempted from payment. The assessments are made by local authorities and for the purpose of rates every separate dwelling more or less severed from another is assessed as a separate "house." These assessments are forwarded to the surveyors of taxes and thus many houses containing separate dwellings are exempted. In addition, all houses with outside or open staircases are also exempted by the surveyor when the component dwellings come within the rentals mentioned in the Act. The number of dwellings requiring certificates are therefore becoming fewer every year.

III.—USAGE AND MISUSAGE.

DWELLINGS CLASSED ACCORDING TO USAGE.

Construction and misconstruction have been mainly touched upon as applying to new dwelling-houses; usage and misusage will mainly be considered in reference to old. Before doing so it will be desirable to picture dwelling-houses as falling into classes according to usage. On the one hand there is the ordinary dwelling-house occupied by one family or household and used as one dwelling only, and on the other the dwelling-house occupied by members of more than one family, and a greater or lesser part of which is used in common. Of these more or less common dwelling-houses there are a number of types:—1. Those used entirely in common—e.g., the common shelter and the common lodging-house. 2. Those used all in common except the sleeping places (*a*) with separate cubicles in corridors—e.g., Rowton lodging-houses, or poor men's hotels, or (*b*) with separate bedrooms—e.g., ordinary lodging-houses and hotels, boarding-houses, and residential clubs. These types of dwelling-houses are furnished, provided with service, and supplied with food, although this may be reduced to the smallest proportions, and they are variants of the inn or hotel, and are invariably under resident management and supervision and duly controlled as to usage.

[2] Tenemented Buildings and Duties on Inhabited Houses, Journal of the Sanitary Institute, vol. xix.

Then come dwelling-houses let in separate dwellings, unfurnished, without service and without food, and approached by a common stair, the dwellings differing in privacy according to the degree of structural severance and of combined usage of the domestic and sanitary conveniences, the types being :—1. Those containing separate and self-contained dwellings, each dwelling having but one entrance, and within its precincts at least room for sleeping, living, and cooking, and a scullery, lobby, and water-closet or other conveniences as in self-contained flats. 2. Those containing separate and self-complete dwellings in which part or all of the sanitary and domestic conveniences are situated outside the dwelling, but on the same floor, and are not used in common. 3. Those containing separate and associated dwellings where on each floor either the sculleries, lobbies, or water-closets or all the domestic and sanitary conveniences are used in association by the families on the same floor. These types are found with variants in all kinds of flats, but the next type is found in the older houses only. 4. Those containing dwellings having no severance from each other except by occupation and where the domestic and sanitary conveniences are used in common by all the occupants of the house. This last type is, of course, at once recognised as that of the misusage of the kind of house not intended for the purpose of providing separate dwellings, but which the pressure of population has forced into that service without any alteration to meet the changed usage. And here it is desirable to trace briefly the causes and effects of pressure of population upon housing and some remedies that have been suggested.

PRESSURE OF POPULATION AND OVERCROWDING.

In considering the question of overcrowding and housing there are certain lines that should be followed if logical conclusions are to be reached to diagnose the disease and to trace the causes, to lay bare the effects of the malady and the natural processes of recovery, to suggest remedies most assisting to natural events, and to remove any impediments to the return of equilibrium.

It must be borne in mind that overcrowding of population implies not merely the overcrowding of cubic space in rooms, but also the diminution in the number of rooms in dwellings and the increase in the number of dwellings in houses, the results of which are the production of overcrowding of the domestic and sanitary conveniences and the rapid deterioration educationally in the habits and customs of tenement dwellers and the ultimate deterioration of health, especially of the health of the children.

Briefly put, the malady is extreme pressure of population in certain areas of great towns, especially of the metropolis, the part most affected being the middle zone where the stream flowing in from the country meets the stream driven out from the centre. The extension of commercial and professional activity in the centre is the cause that sets in motion both streams, by bringing more and more workers to the centre and displacing more and more dwelling accommodation round the centre, so that both the displaced population and the newer comers compete for housing accommodation with those already residing in the middle zone. The effects are that the destitute are driven into the workhouses, the dissolute and the necessitous into the badly built, decaying, and out-of-date areas, and the respectable workers into tenements or rooms in dwelling-houses or parts of dwelling-houses from which the former better-class occupants have been driven farther out. Equilibrium has been restored in the past by the construction from time to time of additional dwelling-houses further and further out and the gradual improvement of means of transport, the largest proportion of those migrating to the suburbs belonging to the more comfortable and prosperous classes. There is no reason to suppose that this is not the mode in which equilibrium will ultimately again assert itself. But the process is slow and may be quickened by improved transport, by additional buildings in the outer zone and in the middle zone, by the reconstruction of the worst of the existing houses in healthy flats, and the adaptation into flats of the floors of the best of the remaining dwelling-houses.

There is an idea prevalent that if in an old area in a city so many thousand persons require decent dwelling accommodation it is only necessary to erect so many thousand houses on a new area in the country and to supply means of transportation and the transfer is effected. But thousands of people do not simultaneously put together their goods and chattels and straightway migrate some miles into the country. No such a movement takes place. The improved transport is not the means by which the overcrowded population of an internal area is removed, but is the medium that prevents the new area in the country from being isolated and enables those attracted there to get to and from the city. The new area attracts the best of the population nearest to it, and the areas relieved by the new area in their turn attract others. A movement and a circulation take place around the new centre. Additional transport and additional dwellings in distant suburbs will only relieve overcrowding in a particular area or zone by slow, distant, and indirect effect and it is difficult to understand why there should be any insistence upon building at a distance classes of dwellings that the overcrowded persons for whom they are intended will certainly not occupy when they are completed. These overcrowded persons will get the best accommodation they can secure within reasonable distance of their work, and as the pressure of population relaxes they will find this accommodation in the houses vacated by those of a somewhat better class moving further away.

Within the last 50 years London has grown yearly at the rate of from 40,000 to 50,000 persons, this average number being about equal to the excess of births over deaths; but a large emigration from London is continually taking place, and an equally large immigration into London simultaneously goes on. Whether the emigration is from the more central parts there is no means of ascertaining, but that the immigrants settle in the more outlying parts is proved by the census returns which show that the number of persons born out of London is larger in the outlying districts than in the inlying districts of London.[1] This leads to the question whether additional building in distant suburbs will immediately benefit the immigrants *to* or the residents *in* London?

It is very reasonably said that the demolition and reconstruction of unhealthy houses, groups, and areas are no remedies for overcrowding, and it is obvious that they cannot be as they do not provide additional dwellings. But the necessity for demolition and reconstruction is brought to an acute stage by overcrowding, the dwellings and groups of houses, originally ill-arranged and ill-constructed, being soon rendered unfit for habitation by the increasing congregation and compression of the worser elements of the population on an unhealthy area. The effect of demolition is not only to destroy the houses but also to disperse the worser elements amongst the better elements of the population. Therefore demolition is a remedy for the effects of overcrowding, and proper reconstruction should be the means of preventing their recurrence, and the effect of the process is a circulation and re-arrangement of population.

But there remains still to consider the large population driven into sub-let houses unsuited to the usage to which they are put. They never were intended to house a number of families and no attempt is made to render them fit for this purpose. It is here that overcrowding exercises its most deteriorating and permanent influence upon the health and morals of thousands of children, youths, and young persons whilst waiting for the erection of new buildings at a distance that will not affect their neighbourhood except by a back-wash years hence. I am firmly convinced that the greatest hope of regeneration lies in adapting the better type of tenement houses to the altered usage to which they are put, and without an effort in this direction, even when the acuteness of the overcrowding has been modified, the ill-effects will continue to persist.

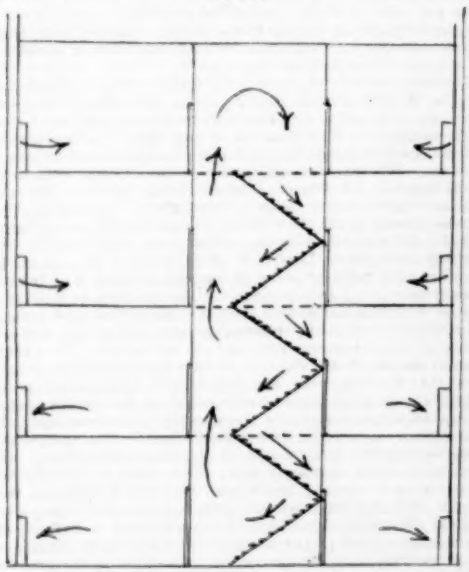
MADE-DOWN TENEMENT HOUSES AND TENEMENT DWELLINGS.

The tenement-house is generally understood to mean the ordinary vertical dwelling-house constructed for the use of one family and sub-let to the usage of many and not a house constructed in flats. Of such houses there are many thousands in London and a family likeness runs through them—the common passage and staircase and the staircase-well with its foul atmosphere derived from the rooms opening into it, and the dwelling-rooms with their doors ajar, destroying all privacy, in the attempt to mitigate the smokiness of the chimneys within (see Fig. 7 and Fig. 9). For the major part of the year, and especially in cooler weather, with the windows all closed and the fires all burning, the atmosphere of the whole house becomes one, and as no air can enter by the windows or chimneys and the fire-grates are all extracting, the chimneys as a consequence all smoke, much to the surprise and

[1] See also Map, vol. ii., Labour and Life of the People, Charles Booth.

disbelief of the owner, who previously to sub-letting the house probably lived there himself. He cannot understand the competition that is going on between his tenants to secure as much as possible of the air in the staircase-well, wherever it may be drawn from, and that whereas formerly the unlighted grates supplied air to the staircase-well which was distributed up and down the staircase by an upcast and downcast current to satisfy the lighted grates, those grates being now lighted and becoming also extractors the circulation of air in the house is destroyed. That this is the case can be verified by very simple experiments in any house by means of candle flames and smouldering paper.

FIG. 7.



A diagrammatic representation of the circulation of air in ordinary dwelling houses.

The absence of cleanliness everywhere, especially on the upper floors, and the want of use of soap-and-water are everywhere apparent, and a little deeper inquiry leads to the conclusion that water is not a commodity to be obtained easily without going a considerable distance, and that to get rid of liquid and solid refuse similar long journeys have to be made. In addition to the excessive number of dwellings in the house there is usually an excessive number of persons per room, but it is remarkable how closely the occupants keep just outside the inadequate minimum of cubic space. So that with no illegal overcrowding these unhealthy conditions are the normal ones under which many thousands are permanently housed and will continue to be so housed whatever new additional building takes place in the suburbs. The superficial observer often heaps abuse upon the class occupying such houses for their negligent, uncleanly habits, oblivious of the fact that the constructive arrangements of their dwellings never give the opportunity of acquiring decent habits.

Many years ago the late Dr. Edmund Parkes showed that, calculated on a physiological basis, the human adult required 1000 cubic feet of space, because in order to maintain the air in a sufficient state of average purity in a dwelling-room it was necessary to supply 3000 cubic feet of air per hour and the air in this climate could not be changed more often than three times per hour. We are continually bemoaning the large death-roll of tuberculous phthisis, which is, as we have seen, essentially a disease spread by crowding and restricted air-space, and the medical profession is now strongly advocating the cure and mitigation of the disease by fresh-air treatment. Is it out of place to advocate even more strenuously the prevention of the disease by the provision of more cubic space and especially by raising the present inadequate minimum standard of 300 cubic feet? The adoption of a maximum as a working standard is scarcely practicable, but it is practicable to advance the minimum standard to 400 cubic feet at the very least for adults, and if the lauded fresh-air treatment means anything it means, firstly, a decided step in this direction and a legal definition of overcrowding, the omission of which in our Public Health Acts is a serious flaw.

How are local authorities to control new buildings as to cubic space occupied after they are constructed, since overcrowding is not a question of construction? It can only be done on a sufficient scale by a statutory definition of overcrowding of cubic space, and nothing short of 400 cubic feet per head for adults will be satisfactory, although it may reluctantly be reduced to half the amount for children under 10 years. It is essential to practical working that this minimum standard of cubic space be made to apply to all rooms used for sleeping purposes, whether occupied also as living-rooms or not, because it is practically impossible in a large number of cases to differentiate, and where such differentiation is attempted it fails in that it has no permanency.

Underground dwellings are mainly to be found in tenement houses, where they were originally intended to be used as kitchens, sculleries, stores, lumber-rooms, or cellars. Underground rooms are only subject to restrictions when they are let as dwellings separately from any other rooms on any floors of the house, and when the floor of the rooms is more than three feet below the surface of the nearest ground. The principal disadvantages these rooms suffer from are want of light and air and the presence of dampness and ground vapours, and the restrictions are intended to avoid these. It is inscrutable why the legislature has hesitated to prohibit any room from being used as a dwelling however much or little the floor may be below the surface unless protected by a concrete base and an external area to six inches below the base level with ventilation between concrete and flooring. Numbers of back basement rooms escape the statutory provisions intended to protect against damp earth and ground vapours, simply because their floors are less than three feet below the nearest ground, which is generally a diminutive backyard. The principal reason for mentioning underground dwellings here is to illustrate the fact that Parliament has in this instance legislated for the dwellings as apart from the houses as a whole, and has set a precedent that should be followed by legislating for other dwellings in houses let in separate dwellings, and defining what is a proper dwelling, for at present no such definition exists. Whole streets of houses formerly occupied by good-class families are now occupied in separate dwellings on separate floors. Whole neighbourhoods of houses in London can be seen undergoing this process of subdivision, and their state slowly but surely falls from bad to worse without any attempt to stem the deterioration, degradation, and unhealthy results that must inevitably follow until an insanitary area will have to be dealt with at great expense. There are no powers available for dealing with the structural arrangements of separate dwellings, and the only course open is the registration of the whole of the house under the by-laws.

There can be no doubt that the want of stair ventilation, the difficulties of obtaining water, of access to the water-closet, to the scullery, and to the washhouse, and of refuse riddance, are causes of the ill-health of the dwellers in tenement houses, and that the unhealthy habits engendered by such conditions become permanent.

THE REGISTRATION OF TENEMENT HOUSES.

Every sanitary authority must make and enforce by-laws for fixing the number of persons who may occupy a house, or part of a house, which is let in lodgings or occupied by members of more than one family, and for the separation of the sexes in a house so let or occupied; for the registration of houses so let or occupied; for the inspection of such houses; for enforcing drainage for such houses and for promoting cleanliness and ventilation in such houses; for the cleansing and lime-washing at stated times of the premises; and for the taking of precautions in case of any infectious disease. With reference to infectious disease and drainage, all houses, including the above, must conform to the laws, by-laws, and regulations that already sufficiently cover that ground. Therefore, there remain with regard to tenement houses the provisions for registration, inspection, air-space, ventilation, and for the cleansing of parts and of the whole premises. The same by-laws apply to a house whether it contains two

families or a dozen. As far as ventilation is concerned the model by-laws of the Local Government Board make no structural provision, so that the principal use of the by-laws is to prevent overcrowding and to obtain cleansing. The essential point of difference between the condition of a house when it contains two and when it contains a dozen families is one of altered usage with unaltered structure, and the by-laws provide for no structural alteration; on the contrary, by registering the house the misusage of the premises for purposes for which it was not built is practically stereotyped and legalised. This is remarkable as contrary to the spirit of the Building Act which by Section 211 (3) prohibits the conversion into or use as two or more dwelling-houses any building constructed originally as one dwelling-house. The unit of legislation has hitherto been the house, except in the case of underground dwellings. With the altered method of construction of new dwelling-houses and of usage of old houses the house as a unit is insufficient to meet the requirements of separate dwellings under the existing form of laws and by-laws. The unit must be the dwelling. This is so obvious a generalisation that it would hardly need statement but for the fact that it appears to have almost entirely escaped the observation of the legislature, possibly because the floor and flat style of dwelling, one storey above another, is the growth of recent years.

A COMPARISON OF FLOORS WITH FLATS.

If dwellings in floors be compared with dwellings in flats there is a great difference in the conditions of living. "Flats" we understand to be horizontal dwellings with all conveniences on the same level; "floors" we understand to be horizontal dwelling-rooms with all conveniences on ground or basement level. The conveniences embrace (1) water-supply for (*a*) personal ablution, (*b*) cooking and washing up, (*c*) small washing, (*d*) room washing, and for (*e*) drinking purposes; (2) drainage for water polluted by (*a*) personal ablution, (*b*) food washing, (*c*) small washing, (*d*) washing of rooms, (*e*) bedroom slops, (*f*) urine, and (*g*) children's excreta; and (3) refuse removal, including food waste, ashes, and sweepings. The small washing is often done in a room, but the large washing is usually done in the washhouse on the premises or at the public washhouses or by a laundress. The coal fuel is kept either in or in close proximity to the dwelling.

Certain houses that enable exact comparisons to be drawn between the sanitary condition of these two modes of living—namely, in flats and in floors, have come under my observation in adjoining streets. Both groups were built in 1882–83. For convenience the former may be called A, B, and C houses in O street and the latter Nos. 2 to 20 (even numbered) houses in H street. Each group contains 42 dwellings; the flats are contained in three houses, each consisting of 14 dwellings of three rooms each. The floors are contained in 10 houses, of which eight consist of a three-room and a two-room dwelling each, one of one three-room and four two-room dwellings, and one of five two-room dwellings. The houses are in each group of four storeys, the "flats" being four on each floor and two on an additional half-ground floor at the back. In none of the houses of either type is there a resident caretaker. The fundamental difference between the two groups is that whereas in the "flats" all conveniences are on the same level in the "floors" the conveniences are situated in the basement or yard, and the question to be asked is, What effect has this upon the habits of the occupants, especially the occupants of the upper floors? To avoid entering into lengthy details two typical cases may be taken to exemplify the comparative sanitary conditions that prevail in the two kinds of houses. In the top floor of C house in O street is a family of husband and wife and five children, paying 8*s.* a week for a dwelling consisting of a living-room, two bedrooms, a scullery and a washhouse, and a water-closet, and kept in an orderly and cleanly condition. In the top floor of No. 10 house in H street is also a family of husband, wife, and four children, paying 8*s.* 6*d.* a week (6*d.* more) for a floor consisting of a living-room and two bedrooms. Every drop of clean water has to be brought up from the basement and every drop of dirty water taken down again. The washing is all done in the basement washhouse. All refuse is thrown into the fire-grate and there kept until ready to be taken down to the dustbin in the yard. All the members of the family, including very young children, have to make their way down to the back yard to the water-closet. The tenant did not know any of the other families living in the house, whether they were respectable or not. The condition of the rooms left much to be desired, although the mother appeared to be an industrious woman and deplored the fact that she had been obliged to move out of one of the flats in O street because the house had been devoted to other purposes.

There is a vast number of families in London living on the top floors of four-storeyed houses, the water-taps, sinks, water-closets, and dustbins of which are situated at the ground floor or basement, or in the yard or area, and these houses are about 40 feet high. It is usually assumed that 20 times more energy is expended in walking upstairs a vertical height in comparison to walking on the level; therefore walking to the top of a four-storey house is equivalent to walking about 800 feet upon the level, and, say, a cottage measures 15 feet frontage, this is equivalent to walking past a row of over 53 cottages to reach the common sanitary conveniences above-mentioned. What would be the opinion of a medical officer of health or of the Local Government Board if provision were as inadequately made even in a rural district? Yet this is the condition that prevails over a large part of London. It is usual to regard 100 feet horizontally as the limit of "reasonable distance" for water and drainage, and even the extreme limit of the law does not suggest going beyond 200 feet. This is equal to five feet and 10 feet respectively regarded vertically, or one storey. How can it be said that houses in which some of the families have to traverse a distance equivalent to 1600 feet to and fro to draw fresh water, another 1600 feet to and fro to cast foul water, 1600 feet to and fro (every member of the family, including very young children) to visit the water-closet, and another 1600 feet to and fro to deposit the refuse if it is not to be retained in the dwelling-rooms, are sufficiently equipped structurally to give the occupants an opportunity of leading healthy, cleanly lives? What chance has a respectable family of observing the decencies of life in a house where there are one or two dissolute families, where the domestic and sanitary conveniences are all used entirely in common, and the members of the respectable family, even the youngest, are continually traversing the house to and fro? If domestic and sanitary conveniences are provided on each floor those living on that floor can at least cultivate their own good habits in their own way. What is wanted is to procure for families as much privacy as can be obtained, and to reduce the common usage to the smallest proportions possible. This is even more requisite in tenement houses where there is no resident controller than in blocks of artisans' dwellings. Numerous streets in parts that were suburbs 50 years ago with good middle-class houses are now sub-let in floors. I have watched the conversion of whole streets and roads of good houses from one occupation into "floor-lettings," and this has taken place within recent years and without the least modification of structure. The ultimate effects of this conversion without adaptation is disastrous. The leasehold system is partly responsible for it, the leaseholder naturally getting the best return possible, and the freeholder being supine, as the demand for housing accommodation forces up the value of the land. The ultimate result appears never to be considered until insanitary conditions throw upon the sanitary authority, and especially upon the medical officer of health, the unpopular duty of condemnation. This shifting of responsibility throws upon the medical officer of health the defensive duty of pointing out that he is largely required to make bricks without straw, because the domestic and sanitary requirements of a dwelling, as distinguished from a house, are undefined, and the ordinary laws as to nuisances do not touch the points at issue.

With the increase in the size of dwelling-houses and the increase in the subdivision of houses into separate dwellings the urgency of legislating on the lines of the dwelling as the unit becomes greater and greater, and no approach to any satisfactory handling of the housing question, at least in the metropolis, will ever be reached until this unit is adopted as a fresh starting basis. Some such provisions as the following are required to meet the changed circumstances of living. Every part of a house hereafter let off separately as a dwelling shall have on the same or on the adjoining floor the use of the domestic and sanitary conveniences necessary to render a dwelling habitable. The domestic and sanitary conveniences, the use of which is necessary to render a dwelling habitable, are: a water draw-tap constantly supplied with water, a sink and waste-pipe for drippings and washing purposes, a water-closet, dust receptacle, coal-box, and food-safe.

None of these conveniences should be situated in a habitable room, and where possible there should be an open lobby or landing on each floor. In any case the common staircase of the house must be permanently ventilated into the open air at each floor level. It should be remembered that in continental and Scotch cities, where for years the flat system has been in vogue, the mode of sub-letting houses in floors improperly equipped does not present itself as a serious question for them, as on each floor of the houses of those cities the appurtenances of the dwelling are provided. It is the altered conditions in London that furnish this serious problem.

THE ADAPTATION OF TENEMENT HOUSES.

It may be taken that there would be little difficulty in making and enforcing provisions for ventilating the common stair at each floor level, for having a refuse receptacle on the open landing or lobby, and for supplying a draw-tap and sink on each floor. The water companies might possibly stand in the way with extra demands, and the owners of tenement houses would probably object to any expenditure unassisted.

With regard to water-supply it was pointed out by the last Royal Commission, in reference to the metropolis and neighbourhood, that "the requirements of the population are a supply of pure and wholesome water, constantly laid on, at such a pressure as will make the water reach the top storey of the highest houses, and in quantity sufficient from time to time to meet the needs of the growing number of inhabitants."[4] Very few made-down tenement houses have water supplied anywhere above the ground floor, and generally it is in the basement only, or sometimes at the end of the backyard. The only way in which the approval and coöperation of property owners could be won would be by monetary assistance in some form. If this were forthcoming something more permanent than the mere makeshifts above suggested would be required of house-owners, and if municipal authorities were to undertake to convert floors into "flats" the same would apply. For the purpose of adaptation only houses well situated as to light and air should be dealt with. It must be recognised that a certain proportion of houses are not fitted to be adapted, either on account of the surroundings, or of the internal arrangements, or of the originally bad construction, so that it would be necessary carefully to select those suited to the purpose, but of these there are considerable numbers.

There are three methods in which tenement houses could be adapted. 1. The simplest but not the most satisfactory manner is by partitioning off a portion of the front room opposite the staircase landing on each floor to form a scullery and washhouse and on the further side of this to construct a water-closet against the outer front wall, obtaining through ventilation from the open air in the front to the back of the scullery by means of a fanlight on to the common staircase and so into the open air again off the staircase at the rear of the house. This partitioned off lobby, scullery, and water-closet may be made to be entered either from the front room of the dwelling for private use or from off the staircase for common use when there is more than one dwelling on a floor. (Fig. 8A.) 2. Probably the best method would be by the construction of a tower at the back of the house, containing on each floor an addition containing an open lobby, scullery, and water-closet and approached from the back room on each floor; this would restrict the addition to private use. (Fig. 8B.) 3. If the tower were constructed off the staircase then the addition on each floor or half floor would be available for common usage by the families on the adjoining floor. (Fig. 8C.) Out-buildings, towers, or projections abutting at right angles to the line of frontage, generally the rear front, are objectionable on account of the tendency to impede light and air in proportion to the distance they advance from the main wall and according to orientation. On the other hand, there is a great advantage in being able to add sanitary conveniences, such as water-closet, scullery, &c., and lobby, with ventilation between the dwelling and the sanitary additions, provided that the projections do not advance so far as to close in the spaces at the rear or to interfere with the perflation of the dwelling. I see no reason why a skilful architect should not be able to design a tower addition of this kind without any appreciable detraction from light and air. The sketches show the several methods suggested and sections through a tenement house unadapted and adapted for separate dwellings. (Fig. 8A, Fig 8B, Fig. 8C, and Fig. 9.)

FIG. 8A.

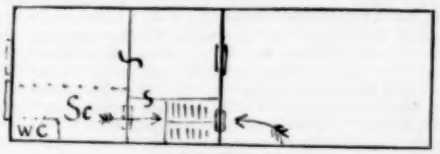


FIG. 8B.

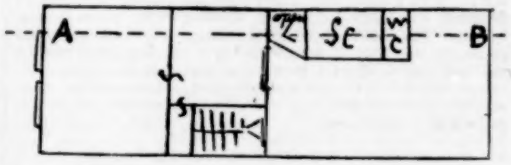
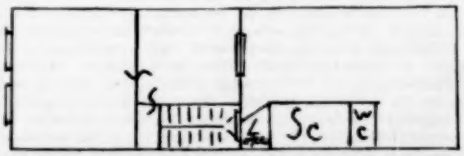


FIG. 8C.



Diagrammatic representations of methods by which better ventilation can be secured in dwelling houses. In Fig. 8B the line A, B indicates the place where the section is taken, shown in Fig. 10. Sc., Scullery. L, Open lobby.

After working for a long time upon this idea of adapting the ordinary tenement house so as to render it healthily habitable in separate dwellings, I recently found, as many before have found, that there had been another worker in the same field. 30 years ago Professor Bannister Fletcher, F.R.I.B.A., published a work entitled "Model Houses for the Industrial Classes," which is now out of print. The work contains three designs[5] for model houses, one of which there would be great objection to, another that would be passable with slight improvement, and a third that is decidedly good. But the most important part relates to the adaptation of existing houses, of which two methods are shown by drawings—namely, the addition of domestic and sanitary conveniences on each floor—by one method placing them in a separate compartment on the staircase and cut off from the front room, by the other method placing them in a tower built out at the rear of the staircase window. There is also illustrated a method of converting three narrow houses into two "double flat" houses. This work was written with a view to realising increased profits from the rentals of adapted houses, but as unadapted sub-let houses obtain as high and even a higher rental per room than houses constructed in small flats it is not surprising that the object in view was not attained. Yet the fact remains that adaptation is undoubtedly the right and proper course to pursue in appropriate instances, and is the only means of permanently ameliorating the condition of existing tenement houses.

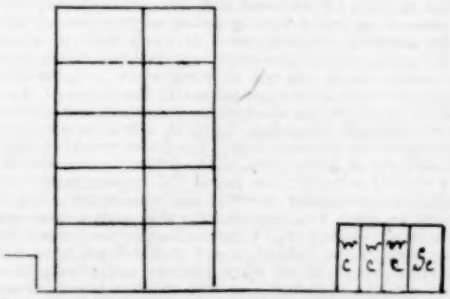
The raising of the money for this purpose with local authorities presents no difficulty, as under Part III. of the Housing of the Working Classes Act, 1890, a local authority as well as a private company, association, or individual may not only build additional houses, but may also convert any buildings into dwelling-houses for the working classes and may alter, enlarge, repair, and improve the same respectively. No effort has hitherto been made to do this. The best work that local authorities might hope to do would be in showing by example how some existing unhealthy tenement houses could be converted into healthier flats as object lessons, rather than in attempting to acquire and improve *all*

[4] Final Report of the Royal Commission on Water-Supply within the limits of the Metropolitan Water Companies, Viscount Llandaff, Chairman, 1899.

[5] There is a fourth but it is practically the same as the third.

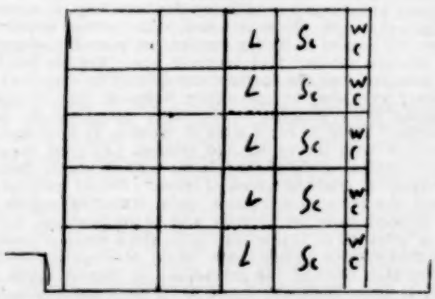
such houses. Private owners, individually and associated, must be depended upon to carry out such work, if it is to be done on any adequate scale. As to borrowing money for the construction of new dwellings I have shown elsewhere[8] that public authorities and private

FIG. 9.



Section through an ordinary tenement house, showing situation of water-closets and scullery.

FIG. 10.



Section through tenement house diagrammatically represented in Fig. 8B. Section taken at line, A, B, showing situation of lobby, scullery, and water-closet.

companies or individuals have both borrowed nearly equal amounts from the Public Works Loans Commissioners for this purpose. No money appears to have been borrowed for purposes of adaptation. Under Part III. of the Act loans are granted to private persons entitled to the land in fee simple for an absolute term of more than 50 years for the purpose of improving dwellings for the working classes. Land-owners have no power to deal with the houses on their land until the leases expire—leasehold house-owners only possess this power, although even they in many instances are not the persons who sub-let the houses in subdivided tenements. Few leasehold house-owners possess houses upon a term sufficiently long to satisfy the requirements of the Public Works Loans Commissioners for borrowing purposes, and most leasehold house-owners would object to borrowing or spending money to adapt tenement houses when they can be let without alteration.

The exemption from the inhabited house duty offered by the Customs and Inland Revenue Acts of 1890 and 1891 under the certificate of a medical officer of health to owners of houses altered and adapted to be let in separate dwellings has not, to my knowledge, proved sufficient inducement to cause a single owner to move in this direction. As has been already pointed out, the pressure of sanitary legislation in this direction is *nil*, such legislation not yet having taken into account the altered circumstances of the last 10 or 20 years.

It might be thought that if new blocks consisting of houses containing flats of two, three, and four-roomed dwellings with conveniences attached can be erected and be let at the same rent as, and even at less rental than, the same number of rooms in an existing house subdivided and sub-let without conveniences attached to the separate dwellings it should be possible to adapt many existing houses without necessarily increasing the rental, and to stem the downward progress of deterioration in decorative and structural condition caused by common usage, and at the same time to improve the habits and to stimulate the self-respect of the inmates, to the mutual advantage of landlord and tenant. But one has to recall the circumstances in which many of the existing blocks of separate dwellings were erected in London. The Metropolitan Board of Works never built on any of the numerous sites cleared by them since 1875, but the sites were sold at a price much below open market value, because the condition was attached to the sale that working-class dwellings must be erected upon the sites, and the companies and individuals who purchased them were to that extent practically subsidised. A similar course is adopted by the London County Council as successors of the Metropolitan Board of Works: they build upon the sites cleared, but before doing so they revalue the sites with the restriction upon them only for the building of working-class dwellings, and the difference between the open market commercial value and the restricted value is wiped off, again practically subsidising the dwellings upon the site. Furthermore, some bodies that construct buildings have been largely endowed by private philanthropy, so that they have no interest and no sinking fund instalments to pay, and are to that extent also subsidised. Therefore it is not to be wondered at that well-found flats are let to the working-classes at the same or a lower rental than bare incommodious floors in tenement houses and that house-owners are deprived of whatever inducement or incentive or desire they may have possessed properly to adapt houses made down into tenements to the altered purposes to which they are put.

At present there would appear to be only one way of counteracting the effects of subsidies or quasi-subsidies upon new buildings, and that is by subsidising or otherwise assisting pecuniarily the existing owners of houses made, or to be made, into tenement houses. If local authorities undertook to alter and adapt tenement houses they would have to purchase them compulsorily with 10 per cent. added.

If owners undertook to adapt and improve tenement houses so that they might be let in separate dwellings in properly equipped floors or flats they might be empowered to send to the borough councils plans and sections of the proposed improvements, to be submitted to the surveyor and medical officer to report upon. This report would embrace the consideration of open space about the buildings for external light and air, the height of the houses, the condition of stability and repair, the mode of construction and arrangement, the suitability of the premises to adaptation as separate dwellings, and the adequacy of the proposed improvement to convert the floors into healthy flats. If the owners' houses and plans be approved they might be empowered to make application to the borough council for loans upon the property at the lowest possible rate of interest with repayment by small instalments in a term of years, in a similar manner to that in which a land-owner obtains a loan from the Public Works Loans Commissioners for the building of new working-class dwellings. The conditions upon which the loans would be granted would be set out fully as to the structural improvements to the premises required before completion of the payment by the borough council. In addition to the benefit of a very low rate of interest and a small refunding charge, the certificate of medical officers of health would exempt the house also from inhabited house duty. By some such method owners might be induced to adapt their houses to the altered requirements in many areas vacated by emigrants to the suburbs. If not, then some small additional inducement should be offered to bring about the necessary equilibrium. Otherwise there appears to be a prospect that if the number of houses made down by usage into floors without structural adaptation continue largely to increase the number of sanitary inspectors and the amount of inspection will require also to be largely increased. Judging by the very much less inspection required in "flats" as compared with "floor" houses, even where there is no resident caretaker, it is not unreasonable to expect that the adaptation of the "floors" would enable a considerable annual expenditure to be saved and that the beneficial effect upon health and habits of the people so housed would make ample recoupment in kind, if not in money, for the expenditure incurred in adaptation. In any case it must necessarily be in appropriate instances a less costly procedure than entirely demolishing the houses and reconstructing them.

[8] Results of Housing the Working Classes, Howard Medal Prize Essay, Royal Statistical Society, 1901.

A BRIEF REVIEW OF THE HOUSING QUESTION.

To summarise briefly the question of the healthy housing of the people, our ideas must be cleared of the confusion between the march of two cognate but distinct events. The first is the pressure of urban population whereby all the requirements of healthy dwellings are compressed into the smallest limits, and the second is the making down and dilapidation of dwelling-houses and the deterioration of the health of the inmates whereby insanitary areas and unhealthy tenement streets are created. The remedy for the first is relief of the pressure and resistance to its injurious tendencies; the remedy for the second is the reconstruction of insanitary areas and the adaptation of tenement houses. The relief of the pressure of population will ultimately be brought about by the improvement of the means of transport between the suburbs and urban centres; the building of additional houses in the suburbs; the attraction to the suburbs of the better classes and those able to live at a distance; and the slow but ultimate relief of the pressure in the middle zone by the movement and circulation of the population and the gradual vacating of houses occupied by single families and sub-letting in separate dwellings. The remedy for the dilapidation and deterioration will be brought about by the reconstruction of the worst areas and houses in healthy flats; the adaptation of the best streets and houses of an unhealthy "floor" type to a healthy "flat" form of construction to suit the altered mode of usage; and the supplementing of sanitary laws and by-laws with the dwelling as the basic unit.

The Lettsomian Lectures

ON

DISEASES AND DISORDERS OF THE HEART AND ARTERIES IN MIDDLE AND ADVANCED LIFE.

Delivered before the Medical Society of London

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LECTURE II.[1]

Delivered on March 18th.

MR. PRESIDENT AND GENTLEMEN,—In my last lecture I presented to you a brief account of the condition of the organs of circulation between the ages of 40 and 75 years and I then proceeded to direct your attention to the principal influences which may disorder and damage them during that period of life. I will now attempt to describe the clinical characters and course of the affections of the heart and arteries as I have observed them in connexion with these different influences respectively, whether gout, mechanical stress, syphilis, or other. Thereafter, if time permits, I may be able to examine the different symptoms and signs individually in order to discover the value of each as a guide in diagnosis.

Now, as I have already pointed out, the causes of cardio-vascular disease in the second half of life are very often, indeed usually, complex. It follows, therefore, that if we desire, as we do most particularly, to discover the effects of each pathogenic influence as distinguished from the others, we must begin our study with the simplest, or purest, or most definite of all, and proceed from it towards those which are more difficult, as well as to combinations of causes. It is easy to adopt that method in our present inquiry.

TOBACCO-HEART.

We have in tobacco a single distinct influence at work, one that is universally acknowledged to affect the heart and vessels, and the physiological action of which is understood; one, further, that can be removed, perhaps not without some difficulty (for I have had a patient plead for his pipe with tears in his eyes), and certainly can always be resumed with remarkable readiness; in a word, a most favourable subject of observation by experiment. It is well, too, to begin the study of tobacco-heart in young men whose circulation is still structurally sound; and thereafter to follow up the subject in middle-aged and old persons. Adopting this line of inquiry, I have found that the uncomplicated effects of tobacco on young healthy hearts as they present themselves clinically are palpitation in every instance, a sense of irregular action,[2] post-sternal oppression and pain in half the cases, and in one out of every eight sufferers either angina or uncomfortable sensations in the left arm. Faintness or actual faints occurred in one-third, and giddiness and a feeling of impending death in a smaller proportion. Turning to the physical signs, the heart proves to be of ordinary size in 50 per cent. of the patients; in a few it is very slightly enlarged; the præcordial impulse is often very weak, but occasionally increased in force and frequency and almost as often irregular as not; the pulse tension, with insignificant exceptions, I have always found low. Very interesting, in the light of what I shall tell you later, is the fact that out of 20 of these patients complaining of the heart not one presented a cardiac murmur beyond a weak mitral systolic bruit, varying with posture or cubitus.

Now we are in a position to study the tobacco-heart in a man, aged 40 years; and again let us begin with a man who is sound, active, and healthy otherwise. He complains of his heart, and recognises willingly (for he belongs to our own profession) in the discomfort and anxiety from which he suffers the penalty of having smoked for years the strongest and blackest tobacco that he could buy. Yet his heart is not enlarged, and the cardiac sounds may be described as ordinary were they not peculiarly irregular, the frequency changing every moment and a falter occurring at short intervals. There is not a trace of murmur to be found in connexion with the valves and orifices. At ages over 40 years a clinical study of the tobacco-heart is highly instructive from a practical point of view. Whilst palpitation is still the common complaint, pain, including angina, is put forward more prominently, and so are faintness, actual faints, a feeling of impending death, and a sense of cardiac irregularity, each intermission being accompanied with a sudden stab through the præcordia. In these subjects the heart is more frequently found to be large and feeble, the same weak systolic murmur is occasionally to be heard, the radial pulse is often irregular, and the vessel-wall is thick. This, you will notice, is a combination of symptoms and signs sufficient to alarm the casual observer. But when we examine it more deliberately, in the light of our study of the tobacco-heart in young subjects on the one hand, and of our knowledge of the normal or natural condition of the heart and arteries at 60 years of age on the other hand, we are able to reassure ourselves and our patients. We are justified in concluding not only that every cardio-vascular lesion which may happen to be found in tobacco-smokers is not to be put to the credit of tobacco, but *vice versâ*—and this is of more interest to us in our present inquiry—that præcordial pain, angina, faintness, and irregular pulse in a man, 60 years of age, with a full-sized heart are not to be hastily regarded as evidences of grave disease without further inquiry as to his habits. The cardiac enlargement and large pulse may be nothing more than the result of a life of bodily and mental activity; the præcordial distress may be the result only of tobacco. How very necessary this caution is will be impressed upon your consideration by the two following cases. The first is that of a man, 60 years of age, actively engaged in professional pursuits, who first suffered from præcordial pain of an alarming character four and a half years ago and has had attacks since, particularly during exertion and after meals. One day last autumn, at the end of many hours' hard work, accompanied by at least 18 cigarettes, he was rushing off to dine with a friend when he was suddenly seized with præcordial pain, which he described as fearful, radiating down the left arm. He broke into a cold sweat, thought that his last hour had come, and for a short time had impairment of consciousness. Shortly after this event he took the advice of his medical men and gave up tobacco—shall I say for a time?—and from that day to this, now six months, he has had no further trouble with his heart. The second case

[1] Lecture I. was published in THE LANCET of March 9th, 1901, p. 692. Lecture III. will be delivered on April 1st.

[2] A medical friend who has suffered from tobacco-heart assures me that at one period he could distinguish the contractions of the auricles and ventricles.

is equally striking. A man, aged 55 years, of fairly active disposition and somewhat full habit of body, was suddenly seized with angina pectoris in October, 1899. The pain was of a dull bursting character over the region of the heart; and it passed into the left shoulder, down to the elbow, and settled particularly in the wrist. At the same time there was pain in the upper maxillary region. The heart slowed down from 75 to 50, and the sufferer felt that he was dying. From that time anginal attacks occurred in rapid succession, five, six, nine, or even 11 in a single day; occasionally they came on in the night. This experience continued for nearly two months on end; indeed, it was six months before the angina finally ceased. It was instantly relieved with amyl nitrite; nitro-glycerine was unsuccessful. In the course of giving advice to this patient I fortunately discovered that he had just laid in a stock of 2000 cigars. The line of treatment was obvious, and the result has been, as I have said, complete recovery.

I have dwelt on the subject of tobacco-heart perhaps longer than was necessary, addressing, as I am, a meeting of practitioners of experience and not a class of clinical students. I have done so to bring home to us an important consideration which we are all apt to overlook in diagnosis and still more in treatment—namely, that whether in an ordinary senile heart, or in a heart that is the seat of chronic valvular disease, or in arterial degeneration, something more than the pathological changes have in many instances to be regarded—usually some entirely adventitious disturbance which alone calls for treatment, such as indigestion, flatulence, worry, a bronchial catarrh, or it may be free indulgence in tobacco, tea, or coffee.

THE HEART IN ALCOHOLISM.

Let us pass on now to consider from the clinical point of view the effect on the organs of circulation of another morbific influence of a definite kind—namely, alcohol, or, perhaps more correctly, alcoholism, leaving on one side the questions of form and strength of the drink taken and its purity.

The direct effects of alcohol on the heart and vessels are by no means so easily determined as those of tobacco. In the first place they are complicated with the many indirect effects which it produces on these organs by deranging the functions of alimentation and assimilation, the nervous system and the kidneys, and with the secondary effects on the vessels and heart of chronic nephritis due to the same cause. In the second place, as we saw in my first lecture, alcoholism is very commonly associated with nervous strain, with gout and goutiness, with tobacco, with syphilis, and not uncommonly with two or more or all of these together. Eliminating as far as possible these sources of error by careful selection of cases, I find that the alcoholic heart presents clinical characters as a whole very different from those of tobacco-heart which we have just studied. The most striking and important of these are the evidences of actual pathological change in the size of the heart and the condition of the myocardium. We found no evidence that tobacco causes serious cardiac enlargement. Of 28 cases of alcoholic heart, on the other hand, which I examined clinically in connexion with the present inquiry (the average age being 46 years), only two hearts were of ordinary size, and, as a matter of fact, both of these patients were under 40 years of age. This result is in accord with my pathological observations. For instance, I have followed the condition of the heart carefully in an intemperate man, aged 43 years, and post mortem have found the heart to weigh 17 ounces, to be universally dilated in all its chambers, and to present enlargement of the mitral opening without valvular lesion, corresponding with a weak apex systolic murmur heard during life. These results are also in accord with those in Dr. R. Maguire's cases of acute dilatation of the heart from alcoholism, which he recorded as long ago as 1888,[3] and one of which occurred in a man, aged 23 years. Dr. F. W. Mott has found fatty degeneration of the myocardium in patients dying suddenly during alcoholism. With hardly an exception the præcordial impulse is weak—indeed, it is often imperceptible; the sounds are small and feeble and may be almost inaudible; in 20 per cent. of my cases a weak apex systolic murmur could be heard, varying with posture and from day to day, significant no doubt of leakage through a dilated mitral opening. The alcoholic heart is irregular and accelerated in about half the cases. The pulse tension is usually low; in one-third of the instances the radial artery was sclerosed; in one-fifth of them there was slight albuminuria; the legs may be œdematous. The complaints with which the patient comes to us are commonly of palpitation of the heart, faintness or actual faints, and præcordial pain; but it is very interesting to observe that angina pectoris is rare in the alcoholic as compared with the tobacco-heart in the ratio of from 4 to 15 per cent.

It is unnecessary for me to attempt to give you a sketch even in outline of the subject of either acute or subacute or chronic alcoholism. I would rather mention a form of acute alcoholic failure of the heart of which I have recently seen a case but which appears to be rare. A middle-aged woman at the end of each of her repeated bouts of active alcoholism has violent sickness; prostration passes into collapse, and for 24 hours or more she lies flat on her back with all the phenomena of what may be called acute air hunger; she breathes loudly and deeply, at the rate of 36 per minute, with groaning expiration. The expression is alarmed, despairing, and imploring; the nose is pinched; the surface is livid and cold; the breath is cold; the pulse is practically imperceptible at the wrist; and yet the præcordial impulse is both strong and extensive. The condition is at once one of collapse and urgent dyspnœa, much as in one form of so-called diabetic coma; and it is further remarkable in that it may pass off quite suddenly after having lasted, as I have said, for many hours. It is difficult to resist the conclusion that in such a condition as this some product of alcohol present in the blood is the cause of the remarkable phenomena.

The course of alcoholic heart in older subjects gradually becomes affected by the appearance of cirrhosis of the liver, Bright's disease, neuritis, and possibly dementia; and the method of termination is very various, including ordinary cardiac failure with dropsy. Sudden death occasionally occurs.

GOUT.

Of the many instances of disorder and disease of the heart and arteries that I have met with in gouty subjects at or over 40 years of age I have made a careful study of 29 taken from my private case-books. Twelve of these patients (10 males and two females) had suffered from ordinary articular gout; the other seventeen (six males and 11 females) had irregular gout as defined in my first lecture. The average age was 62 years. In no instance was there albuminuria. The physical condition of the heart and arteries and the complaints of the patients were remarkably alike in the two groups. In 23 out of the 29 cases the heart proved to be enlarged either on one or on both sides. In less than half the number the cardiac action was feeble; in a small number the impulse was entirely imperceptible; the heart-rate and pulse-rate were ordinary; the rhythm was but seldom irregular. It is a very remarkable fact that in no fewer than 12 out of the 29 cases of gouty heart a systolic murmur was to be heard over the aortic area, the manubrium and the right carotid, significant of disease either of the aortic arch or of the aortic valves—in every instance independently of rheumatism or other obvious cause than gout. This result is an interesting confirmation of the pathological observations of Dr. Norman Moore and Sir Dyce Duckworth, given by the latter,[4] and of the statement of Murchison[5] of his experience "that atheroma of the arteries at an unusually early period of life and diseases of the aortic valves which are not congenital and are independent of injury or rheumatism are met with far oftener in persons who are the subjects of the lithic acid dyscrasia or who have had gout than in those who have had no such tendencies." In seven (25 per cent.) of my cases a more or less developed systolic murmur was found in the mitral area, significant either of valvular atheroma and sclerosis or of leakage from ventricular dilatation. Very curiously, I have never met with aortic incompetence of gouty origin. When no murmur exists the cardiac sounds are commonly somewhat feeble and the second sound may be of ringing quality—this more commonly in goutiness than in developed gout. In agreement with this connexion the radial pulse is more often tense in the subjects of irregular than of regular gout; altogether high tension is found in more than one-half of the cases. The great majority presented distinct thickening of

[3] Transactions of the Clinical Society of London, vol. xx., p. 235.

[4] A Treatise on Gout, 1899, p. 108.

[5] Clinical Lectures on Diseases of the Liver, third edition, 1885, p. 637.

the arterial walls. Besides a distressing feeling of irregularity, fluttering or intermittency, and dyspnœa on exertion, men who are the subjects of gouty heart complain most frequently of præcordial pain; women more often of palpitation and faintness or actual faints. In quite one-fourth of all cases of gouty heart the pain is anginal and such angina may be of the most pronounced type. A friend of my own, aged 60 years, began to suffer from gouty angina (diagnosed to be such by his family physician 40 years ago) at the age of 20 years. Almost every year, sometimes more frequently, for the last 12 years of his life he was liable to be seized with intense pain in the left side of his chest which rapidly extended to the neck and down the left arm with tingling in the hand, a sense of great constriction in the chest, faintness, and distress of breathing. He had immediately to rest, whereupon the distress subsided, but it did not perfectly disappear for hours. On different occasions, also in connexion with these anginal attacks, I have known him have free hæmoptysis, complete unconsciousness, vomiting, and sudden violent evacuation of the bowels. He also suffered from articular gout and irregular gout in almost every possible form.

OBESITY AND GLYCOSURIA.

Closely related to goutiness is a clinical type of disturbed metabolism, mainly characterised by corpulence, a bulky, flabby build, and glycosuria. Of this type, represented by 12 cases in my series, nine had glycosuria and two albuminuria; eight were men; the average age was 58 years. Only one had suffered from true articular gout. Here, again, the interesting observation was made that no less than three-fourths of the number had a systolic aortic murmur, none of them a regurgitant aortic murmur, and nearly one-half of them an ill-developed mitral systolic murmur. Thus, there appears to be more liability to atheroma in the gross, corpulent diabetic even than in the gouty man. In all the cases the heart appeared to be enlarged, but accurate physical examination is difficult or impossible in many of these subjects. The impulse was more often feeble than in the gouty, the cardiac sounds were equally weak, and the second aortic sound was occasionally accentuated. The pulse corresponded with the gouty pulse in thickness and tension, but it was more often found irregular and hurried. As for the complaints of corpulent and diabetic patients, they prove to be very similar to those of gouty individuals in respect of pain, but neither palpitation nor faintness was so often mentioned.

It must not be understood from what I have just said in my account of these cases that all disturbances of the heart in gouty subjects progress to valvular or vascular degeneration with associated cardiac enlargement and degeneration. The friend whose case I have just described at some length had led an active life, as I said, for 40 years; and, as I hope to show in my next lecture, the condition is amenable to treatment if this be based on a correct appreciation of the cause that is at work. But it is equally true that if correct advice be not given, or if it be given but be neglected, as happens so frequently, the endocardium and the aorta and other arteries steadily degenerate, chronic interstitial nephritis makes its appearance, and the patient dies either slowly from cardiac failure or suddenly from cerebral hæmorrhage.

CARDIAC STRAIN.

I will now proceed to consider the clinical characters of a class of cases in which you, Sir, will be particularly interested—strain of the heart in middle and advanced life. To make this part of my subject more plain I will discuss in the first place acute strain of the heart as it occurs after the fortieth year; afterwards I will consider the condition of the heart and arteries at this age in persons who have strained them in youth or early manhod. A man, aged 65 years, who came to me complaining of his heart, gave the following account of the commencement of his trouble. Four years previously on making a very hard stroke at golf he was suddenly seized with a sensation of something having happened in his heart. He played up to the next hole, but now felt the chest oppressed; he sat down and got relief. This experience was repeated, and he gave up the round. Walking home two miles he had to sit down occasionally with the same feeling. Ever since that occurrence exertion has produced the same effect. I found the ordinary physical signs of enlargement of both sides of the heart, a scarcely perceptible impulse, the cardiac sounds extremely feeble, the second being of a finely ringing quality; the pulse tense, quiet, and regular, but the radial artery by no means sclerosed. The patient's principal complaints were of irregular action of the heart which troubled him on lying down or when he was dyspeptic, and, as I have said, of post-sternal oppression on exertion. This man had neither albuminuria nor emphysema, but he had frequently suffered from ordinary articular gout. Belonging to this type of cardiac strain I have notes in all of 11 cases which I will briefly summarise. Eight were men and three were women, and their average age was 56 years. In all but one of them the heart was large, with feeble præcordial impulse; the sounds were small and feeble; the aortic diastolic sound was often ringing; in but one case was there a murmur—aortic systolic; with few exceptions the rhythm and the rate of the heart were ordinary. In half the cases the radial artery was sclerosed; in the majority the tension was not increased. Persons who strain their heart after middle life chiefly complain of præcordial oppression, a sense of palpitation and irregular action of the heart, and pain, which may amount to angina; and they may tell us that distress and disability in these different forms have troubled them for years. You will have observed that the man whose case I have read in particular was the subject of gout; and this brings me to the interesting fact that of these eleven individuals seven were gouty. We have already seen how greatly reduced is the resistance of the cardio-vascular system in gouty subjects, and are thus prepared for the readiness with which their hearts may be strained by exertion—a matter of obvious importance prophylactically. In other cases not included in this group the strain took the form of valvular injury, or it affected hearts already the seats of old-standing valvular lesions of rheumatic origin, but the present is not the occasion to discuss these. Nor need I add that a not infrequent result of acute strain of the aged heart, whether its valves have been already damaged or its myocardium badly nourished, is sudden death.

Now, I can understand that some of you, like Professor Allbutt, our earliest and highest authority on this subject,[*] might object to this application of the term "strain" to the effect of exertion in senile hearts. You might say with great reason that exertion in these subjects is not a cause of strain or dilatation of the heart but simply a test, as it were, or the proof, of cardiac debility and disability. But when we come to consider cardiac strain a little more closely it may be maintained just as easily that every dilated heart, every dilated cardiac chamber, every dilated blood-vessel has been strained. Whether, on the one hand, valvular disease, Bright's disease, or emphysema, or, on the other hand, myocardial degeneration, has disturbed that cardinal condition of a normal circulation *that the driving power must always exceed the resistance ahead*, over-distension and dilatation of the cavities, with excessive stretching of their walls, constitute or consist in mechanical strain. However, laying aside theoretical discussions of this character, the great practical fact remains that when the aged or ill-nourished heart is over-distended from sudden and severe exertion it acts at a mechanical disadvantage, and that as often as this may occur the heart suffers more or less in its efficiency; whilst, on the other hand, in confirmation of this consideration, the heart sometimes diminishes in size and præcordial distress disappears under strict treatment continued for a sufficient length of time.

STRAIN BEFORE THE AGE OF 40 YEARS.

A more interesting group of cases than those which I have just discussed is composed of persons who have strained their hearts in youth or early manhood, have never been quite well since, and in middle or advanced life are at last driven to us for help. Cases of this character would furnish excellent material from which we might attempt to judge of the after-effects of excess or abuse of muscular exercise in the young. This is a tempting subject of discussion, but far too long and much too important to be taken up casually at this time. Therefore I will content myself with submitting to you as plainly as I can certain facts bearing on it that have come before me in my present inquiry along with a few simple observations of a practical bearing. First, then, let me read to you the history of what I should call a typical case of the kind. A man, aged 69 years, complains that as often as he walks any distance or climbs a stair he is arrested by a distressing

[*] Clifford Allbutt: System of Medicine, v., p. 843.

sense of having a bar across the lower end of the sternum, breathlessness, irregular palpitation of the heart, and a very little choking in the throat. The discomfort has lately deserved the name of pain. His heart is very large, the area of præcordial dulness being increased in all directions, and measuring transversely seven inches. The impulse is weak over the left ventricle but definite in the epigastrium; the sounds come in couples, moderately good and very weak respectively, without murmur; and the radial artery is large and thick, with rather low pressure and irregular rhythm. It turns out that for the last 40 years these uncomfortable feelings have troubled this man more or less and that at three different periods of his life—at the ages of 31, 42, and 67 years—they increased so much as to incapacitate him for many months—the first time with a sudden sense of something snapping in the heart, the second time with a faint, and always, as he believes, consequent on overwork. Now this man never had rheumatism or gout or syphilis, and was always a temperate, careful liver; and he volunteers the statement that he first felt his heart at Cambridge where he was captain of his college boat and was tried for the university boat, but felt himself that he was not fit for it. Belonging to this type of cardiac strain I have selected 11 cases. The heart is always found to be enlarged, and in about one-half of the cases it is irregular. It may be weak and beating at the ordinary rate, but in other instances it is increased both in force and frequency. Only in quite exceptional cases did I meet with endocardial murmurs in this group of old strained hearts; as a rule, the sounds were ordinary, with a disposition to accentuation of the aortic second sound. High tension and sclerosis of the radial artery were respectively found in about one-half of the cases. The patients complain most commonly of a distressing sense of irregular palpitation of the heart, and very commonly of præcordial pain, but rarely of angina. Faintness, also, is sometimes mentioned. Let me hasten to add with respect to these cases that they do not include any instances of direct injury of the valves mechanically. Rupture or stretching of the aortic and mitral valves during exertion furnishes us with some very remarkable clinical cases; but it is with parietal strain that we are concerned now, physical over-stretching of the cardiac walls. The subjects of dilatation of the heart from mechanical stress suffer by no means from what is commonly called "heart disease" excepting in the worst cases, but yet they feel their hearts comparatively and it may be seriously disabled. Naturally they associate these feelings of disability with fresh attempts at exercise or exertion, as in the case which I have just read. As I pointed out in my first lecture, such exertion may not by any means be connected with the patient's occupation or daily duties, but quite often occurs during unwise attempts on his part to resume at 50 years of age the athletic exercises of his youth in order to reduce his weight, relieve his liver, or dispel gout. It is not wonderful that under such circumstances a permanently enlarged and badly-nourished heart should become embarrassed or even seriously deranged or still further strained. I have known a man, aged 43 years, going straight from London to the Alps, to have not only præcordial distress but dropsy of his legs after his first ascent in his regular holiday. Indeed, the man who has reached later middle-life with his heart enlarged by years of great bodily activity in youth, and settles down quietly on retirement, let us say, from the navy, sometimes finds that ordinary exercise is sufficient to produce alarming cardiac distress and curious loss of courage, obviously due to the muscular tissue of the thickened cardiac walls having fallen quite out of condition. How instructive, for instance, is the following case. A man, aged 60 years, who has led from his boyhood upwards a life of physical activity and at the same time of temperance, and has suffered from neither syphilis nor rheumatism, but possibly from a doubtful attack of gout, settles in a relaxing provincial town, continues to eat heartily, and considers that a little work in the garden is sufficient exercise for him. He increases in weight, his breath gets short, his heart flutters, and now he begins to get anxious about his health, fancying, as he says, that he has all sorts of diseases—a disposition to worry about himself which is entirely new and provoking to him. I find his heart very large and feeble, the cardiac sounds scarcely audible, and in the mitral area a well-developed systolic murmur. The patient is ordered to reduce his diet as a whole and in respect of carbohydrates, to return carefully to walking exercise on the level, and to take a calomel purge followed by a saline twice a week and a mild strychnine mixture. He improves and continues to do so, is able to walk miles without discomfort, and in the course of two months not only do I find his heart reduced in size on physical examination, but I fail to hear the apical murmur, which must have been produced by dilatation of the left ventricle. The bearing of such a case as this on the pathology, prevention, and treatment of certain cases of senile heart disease will be obvious to all. We must be careful, however, to observe that neither unwise abandonment of wholesome exercise nor ill-advised return to physical exertion, separately or in succession, can be regarded as the only cause of the recrudescence of cardiac distress after 40 years of age in those who have strained their circulation in youth. Any one of the many circumstances that produce cardiac failure and dropsy in chronic valvular disease may lead to embarrassment and fresh dilatation of the simply enlarged heart: anæmia and chronic disease, the acute specific fevers, including pneumonia, emphysema, granular kidney, gout, syphilis, tobacco and alcohol poisoning, as well as anxiety and worry, and in women the advent of the menopause. In these cases of old cardiac strain, as in every form of chronic valvular disease and of chronic heart disease all kinds, not only the original and permanent lesion but the recent and probably temporary circumstances that caused the failure have to be ascertained and fully respected in connexion with prognosis and treatment.

SYPHILIS.

Syphilis appears to account for a very considerable proportion of the more serious cases of heart disease which we meet with in older subjects, of course excluding chronic valvular disease originating remotely in endocarditis; but I ought to repeat here what I have already mentioned, that syphilis as a cause of cardio-vascular lesions is very often associated with other morbific influences, particularly strain and alcohol. Of its position as the principal cause of serious disease of the valves as distinguished from the walls of the heart originating in middle life there can be no question. No fewer than nine out of 28 patients of whose cases I have private notes were the subjects of double aortic disease; practically all the others had a loud ringing second sound over the aorta, significant of degeneration; pain of anginal type in half the cases was the prominent complaint; and two-thirds of the subjects had sclerosis of the radial artery. When we consider that syphilis does also affect the myocardium primarily, that fibroid disease, chronic aneurysm and fatty degeneration of the heart are all traceable to specific disease of the coronaries in many instances, and finally, that many of the subjects of syphilitic cardio-vascular disease have perished before the age of 40 years, the magnitude of this cause can be fully realised. I believe that the profession in general have not yet woke up, if I may say so, to the gravity of this subject. How seldom we inquire for a history of specific disease in patients coming to us with cardiac disease in middle life. To no one, as far as my reading goes, are we so much indebted for the truth on this subject as to my friend and colleague Dr. Mott. 13 years ago he published a paper on 21 cases of sudden death from cardio-vascular disease, and in nine of these there was a history of either actual or probable syphilis. What was of greater interest, however, at that early date, he drew attention to the association of syphilitic cardio-vascular lesions with Bright's disease in the broad acceptation of the term. Dr. Mott's work in the interval on syphilitic lesions of the arterial system of the brain has been so brilliant and is so generally known, that it requires nothing more than this appreciative mention by me; and it saves me the trouble of an excursion into the large subjects of cerebral hæmorrhage and thrombosis in connexion with these lectures.

NERVOUS STRAIN.

I confess that it is difficult to say much that is of real diagnostic value on the clinical aspect of cardio-vascular disorders and disease from nervous strain. As I remarked in discussing this subject from the etiological point of view, several factors come into play besides nervous excitement followed by exhaustion and their effects on the heart, great vessels, and cerebral arteries; and the cases, therefore, are found to present a puzzling variety of features. Certain clinical characters are, however, common to the majority. Arterial tension is high; the radial artery is thick, sometimes markedly so; the heart

enlarges; and in about one-half of the cases a systolic murmur is to be heard either in the aortic or in the mitral area significant of chronic endocardial lesions. I have already pointed out that in some of these patients polyuria and temporary albuminuria occur along with the high tension and increased action of the heart; but later the heart may fail. The direct cardiac symptoms of which they complain are of the ordinary character, palpitation with accelerated cardiac frequency and pain—not angina—being the most common at first; feelings of indescribable discomfort and suffocation in the more advanced stage.

After having reviewed, as I have attempted to do, the principal clinical characters of the diseases of the heart in middle and advanced life under their several causes, it may appear for a moment strange that the most important of all the clinical types of cardio-vascular degeneration has been mentioned only incidentally. This is chronic Bright's disease, which, from its complex pathological relations, its widespread effects on the heart and circulation and the organs that they supply, and the far greater gravity of these than those of any of the other causes which we have studied, unless it be syphilis, is a subject of endless interest to us all. Fortunately for me, my immediate predecessor in this chair on the medical side, our distinguished Fellow, Dr. Samuel West, took for his subject the Clinical Aspects of Granular Kidney, and thus relieved me of a task which he was so much better able to discharge than I am.

BLACKWATER FEVER.[1]

BY J. W. W. STEPHENS, M.D. CANTAB.

I PROPOSE as briefly as possible to set forward what I believe are established facts concerning blackwater fever and to leave out of consideration mere hypothesis; and the facts as to its relation to malaria are those which it has been the chief aim of most observers to determine. I shall also leave out of consideration evidence of this kind which is not supported by microscopical examinations of the blood. A microscopical examination is of the utmost importance, but I believe that we have facts in our knowledge now which justify us in saying that the conclusions drawn from such an examination have been too comprehensive, and that, in fact, it is not true to say that if microscopical examination shows no parasites in the blood therefore the case is not one of malaria.

In making examinations of the blood of Europeans supposed to be suffering from malarial fever and who had not taken quinine our diagnosis was not infrequently against malaria, as after repeated search we could find no parasites or pigment. But can we get malarial fever without parasites in the peripheral circulation? The following cases prove, I think, that we can.

CASE 1.—There were daily rises of temperature to about 100° F. Then after a few days there was a tertian rise. There was daily vomiting. It was only after prolonged examination for some days that a single ring-form parasite was found.

CASE 2.—There were well-marked subjective symptoms and daily rises of temperature to above 100° F. Several examinations of the blood were made before any quinine had been taken. After prolonged search no parasites were found. In a few days the temperature was normal. A leucocytic count now gave: large mononuclear, 24 per cent.; small mononuclear, 10 per cent.; and polymorphonuclear, 66 per cent. We felt certain now (*vide* below) that this was a case of malaria, and a re-examination of the blood taken before the exhibition of quinine now revealed, again after a long search, one parasite, confirming thus the diagnosis based entirely on the leucocytic count.

CASE 3.—The following is a case where clinically there was not the slightest doubt as to the malarial nature of the attack, but there was absolutely no proof objectively. On Oct. 28th, 1900, the evening temperature was 99·4° F., the patient feeling unwell. At 5 P.M. on the 29th the temperature was 103°. There was much vomiting. An examination of the blood proved negative. Quinine (1·0 gramme) was administered, but it was mostly vomited. On the 30th, at 6 P.M., the temperature was 100° and the patient was vomiting continually. Examination of the blood again gave negative results. Quinine was administered hypodermically. The leucocytes when counted gave the following percentages:—

—	Oct. 29th, 5 P.M.	Oct. 30th, 8 A.M.	Oct. 30th, 6 P.M.
Large mononuclear	16·4	15·2	15·0
Small ,, ...	7·0	11·2	14·0
Polymorphonuclear ...	76·6	73·6	71·0

Other cases will be found in our report. Türk[2] also has noticed the same fact.[3] Celli[4] has lately published similar facts. He says that in first attacks parasites may be quite scanty and not infrequently completely absent in the circulation. Ziemann[5] finds that in the Cameroons the number of parasites in the circulation is often in no wise proportional to the gravity of the attack. Plehn has also noticed this in the Cameroons. Our own observations, then, establish the fact that malarial fever is not necessarily accompanied by parasites in the peripheral circulation, so that it does not follow because in a case of blackwater fever parasites are absent that it is necessarily non-malarial.

But now let us consider if there is any evidence of the existence of a malarial infection in blackwater fever, and first we must revert shortly to a consideration of what is the evidence of malarial infection in a supposed case of ordinary "fever." 1. If parasites are present it is good evidence that the case is malaria, though we must now bear in mind that the relation of the number of parasites to the severity of attack is not that absolute one that has been supposed. 2. Besides the exceptional cases recorded above which refer solely to those where no quinine had been taken we get a large class of cases where parasites are absent simply from the fact that the patient has taken or is taking more or less quinine. 3. In the absence of parasites we have still two means of proof left: (*a*) the presence of pigmented large mononuclear leucocytes; and (*b*) the relative change in the percentage of large mononuclear leucocytes. Of the first little need be said. It is only necessary to point out that the number of pigmented leucocytes may be extraordinarily small, so that it is only after an examination of all the leucocytes in an extensive sheet of blood spread on a slide that one or two are found, and again they may in undoubted malaria be absent. A negative examination here, again, is not absolutely conclusive against malaria.

The leucocytic change.—It had been previously known that in malaria the relative value of the large mononuclear leucocytes was often increased. We found that this increased ratio was often very marked up to from 20 to 30 per cent., and we were able to show that it bore an inverse relation to the tertian temperature curve, so that the curve of this increased ratio was almost an exact inversion of that of the temperature. During the pyrexia the value was normal or low, while during the apyretic periods the value was high. Whether the relative increase was a real one we were not then concerned to determine. But seeing that we had constantly this disturbed ratio bearing a definite relation to the temperature curve, its diagnostic importance seemed to us great, and, in fact, after a time a glance at a slide was sufficient to show whether or not this relative increase was present and we could deduce safely the existence of a malarial attack. It is not uncommon, then, in malaria, especially during the apyrexia, to have a large mononuclear value of even from 40 to 50 per cent. From a large number of counts of European bloods we have come to consider a value as high as 20 per cent. of the large mononuclear leucocytes as proof of a malarial infection. We may refer here to the case quoted above. In spite of long-continued search in this case previously to the taking of

[1] For the detailed facts on which this paper is based see Reports to the Malaria Committee of the Royal Society (Harrison and Sons, London), by J. W. W. Stephens, M.D. Cantab., and S. R. Christophers, M.B. Viet.

[2] Klinische Untersuchungen über das Verhalten des Blutes bei Acuten Infections-Krankheiten.

[3] We may express here our regret that while working on the blood changes in malaria Türk's monograph, "Klinische Untersuchungen über das Verhalten des Blutes bei Acuten Infections-Krankheiten," was unknown to us.

[4] Centralblatt für Bakteriologie, November, 1900, No. 17, p. 531.

[5] Deutsche Medicinische Wochenschrift, Nov. 22nd, 1900, p. 755.

TABLE TO SHOW THE OCCURRENCE OF MALARIAL INFECTION IN BLACKWATER FEVER.

No. of case.	Parasites.	Pigmented leucocytes.	Necropsy.	Percentage of large mononuclear leucocytes.	Percentage of small mononuclear leucocytes.	Percentage of polymorphonuclear leucocytes.	Proof of malarial infection at time.	Parasites present in peripheral blood.	Remarks.
2*	—	Pigmented leucocytes.	Much pigment.	22·7	14·6	60·7	Yes.	No.	—
3*	Numerous parasites.	" "	" "	55·9	—	43·0	"	Yes.	22/5/99. Before onset of blackwater fever.
		" "	—	19·3	—	80·0		No.	24/5/99. Shortly after onset.
4*	Three crescents.	" "	—	43·8	8·4	41·6	"	"	—
5*	—	—	—	30·6	7·8	61·6	"	"	—
6*	—	—	Much pigment.	—	—	—	"	—	Post-mortem examination only.
7*	—	—	" "	—	—	—	"	—	" "
8*	—	Pigmented leucocytes.	" "	12·0	7·0	80·0	"	No.	—
9	—	" "	—	23·6	6·0	68·6	"	"	—
10	—	" "	—	27·0	19·0	54·0	"	"	—
11	Parasites.	" "	—	21·5	16·4	61·0	"	Yes.	12/7/00. Case seen earlier than usual
		" "	—	11·6	12·0	75·0	"	No.	13/7/00. Blackwater fever still present
12	—	—	—	6·4	4·6	89·0	No.	"	Only a single blood examination made.
13	—	Pigmented leucocytes.		21·0	13·5	65·0	Yes.	"	—
14	—	—		23·0	23·0	54·0	"	"	—
15	—	—	—	24·0	13·6	61·5	"	"	—
16	—	Pigmented leucocytes.	—	12·7	10·5	77·0	"	"	6/10/00.
				15·5	10·6	74·0	"	"	7/10/00.
17	—	—	—	22·7	12·6	64·0	"	"	Convalescent, six days.

* NOTE.—See the First Report to the Malaria Committee. Case 1 is not included on account of the insufficiency of the examination.

quinine no parasites or pigment had been found. The temperature after some days reached normal; a leucocytic count was then made and 20 per cent. of large mononuclear were found. We felt quite certain now that this was a case of malaria, and consequently again examination was made of the original films, and now after prolonged search one, and only one, typical young ring was found. This increased mononuclear value was also found in the blood of native children infected with parasites but presenting none of the ordinary symptoms of malarial fever. It should be added, too, that in blackwater fever, as in malaria, there is often a well-marked leucopenia as low as 2000 per cubic millimetre.

To two subsidiary means of diagnosis—viz., the presence of pigmented leucocytes and the leucocytic change—we attach great importance, and, indeed, they may be the only means of diagnosis, except the clinical features, we have; if the patient is taking quinine, for one of the most striking effects of quinine even in small doses is to cause a disappearance, it may be complete, of parasites from the peripheral circulation, even though the fever does not necessarily abate. We can now consider what the evidence is of the existence of a malarial infection in blackwater fever. It should be also borne in mind that the patients had in all our cases already taken quinine in varying amount before the onset of blackwater fever (vide Table).

In only three out of 16 cases were parasites present. In Case 3 the parasites occurred in large numbers during the course of a typical malignant tertian; when blackwater fever supervened, after the giving of quinine, they then disappeared completely. In Case 11, which was seen earlier than usual, parasites were at first present, but they disappeared completely next day. In Case 4 a total of three crescents only was found. So that, excluding the case where parasites were present before the attack only, we have two out of 16 cases—12·5 per cent—showing parasites or, excluding the case with three crescents only, one out of 16—6·3 per cent. On the other hand, Koch.[6] in his collected series of 41 cases finds parasites in 18—i.e., 43·9 per cent. If, however, we analyse this table we shall see that though the occurrence of parasites is far less than in Koch's cases, yet there exists evidence of a malarial infection in 93·7 per cent. of cases, for in Cases 2, 4 5 8, 9, 10, 13, and 16 at least one typical crowded pigmented leucocyte was found, and in several cases these bodies were common. In Cases 14, 15, and 17, although neither parasites nor pigmented leucocytes were seen, yet the number of large mononuclear leucocytes was in every case over 20 per cent., a percentage which we believe to be strong evidence of a malarial infection. But we have further evidence of a somewhat different kind. It has been stated by A. Plehn[7] and by F. Plehn[8]—and a knowledge of their excellent contributions to the subject is indispensable for everybody who would consider the question—that if before the onset of the attack of blackwater fever the blood of a patient be examined parasites will always be found, and, in fact, an examination of such published cases—and they are necessarily very few, for unfortunately blood examinations are often entirely neglected—shows that this is so, and so far I have not been able in the published cases to find an exception to this, provided, of course, that those cases are not considered where the patient has already taken quinine. But I can readily believe that exceptions may be found, as I have already shown that typical malaria (without quinine) may exist without parasites in the peripheral blood. Thus, to give examples of this condition. Plehn.—Case A.—4/1/90: fever; scanty parasites. 5/1/90: quinine, 1·0 gramme; two hours later blackwater fever; no parasites. Case B.—4/3/90: occasional parasites. 5/3/90: morning, quinine, 1·0 gramme; 12 noon, blackwater fever. 6/3/90: no parasites. Koch.—Case 12.—Before the onset of blackwater fever tertiana simplex duplicata with sporulating forms; 0·75 gramme of quinine given; blackwater fever; disappearance of parasites. This case is peculiar in that three weeks previously during an attack of blackwater fever malignant tertian parasites were present, but in the peripheral blood there were no parasites of tertiana simplex. Ziemann.[9]—A case of malaria; parasites present; 1·0 gramme quinine; blackwater fever. Stephens and Christophers.[10] Case 3.—22/5/99: typical malaria; numerous parasites; quinine, 1·8 grammes, hypodermically. 23/5/99: parasites very scanty; 12.30 noon 0·6 gramme quinine. 24/5/99: 11.30 A.M., blackwater fever; parasites absent.

[6] Über Schwarzwasserfieber (Hämoglobinurie), Zeitschrift für Hygiene und Infections-Krankheiten, dreissigster Band, 1899.

[7] Beiträge zur Kenntniss von Verlauf und Behandlung der tropischen Malaria in Kamerun.

[8] Die Kamerun Küste.

[9] Deutsche Medicinische Wochenschrift, Oct. 9th, 1900, p. 643.

[10] Reports to the Malaria Committee of the Royal Society, First and Fourth Series (London: Harrison and Sons).

Again, a consideration of those cases where parasites are found during the attack makes it clear that, as a rule, they disappear very rapidly, and so constantly is this the case that one is led to suspect that there is some other chemiotactic factor (possibly the hæmoglobinæmia) at work besides the quinine in producing this. These cases, then, show that if a patient's blood is examined before the attack of blackwater fever and before the taking of quinine parasites will generally be found in the blood—that is to say, that the evidence, where procurable, shows that the initial illness of which a history is present is malarial, and we cannot lightly pass over these facts and fail to note that when the blackwater fever has supervened the evidence from existence of parasites is much less—in Koch's collected cases, for instance, 23 out of 41; in our own only two out of 16.

We have further again evidence of another class of cases—viz., those where no parasites were found during the attack of blackwater fever, yet they have reappeared later under conditions which exclude the possibility of re-infection, as in Europe; in fact, a relapse of malaria has occurred after the blackwater fever. Numerous examples of this might be quoted. We have already incidentally mentioned Case 12 in Koch's series, where three weeks after an attack of blackwater fever (parasites = tertiana maligna) a relapse of tertiana simplex occurred. Of the existence of this infection there had not been previously the slightest evidence. Koch.—Case 10.—Patient in East Africa, blackwater fever, no parasites; in Germany, many relapses, tertian parasites. Ollwig.[11]—16/7/98: patient in Germany; fever; quinine; blackwater; no parasites. 31/7/98: parasites; malaria tropica. Stephens and Christophers.[12]—Case 4.—8/7/99: blackwater fever. 9/7/99: crescent. 10/7/99: quinine; blackwater fever; no parasites; left hospital 22nd. 29/7/99: typical malaria; numerous parasites.

Let us now consider the post-mortem evidence. It has been argued that the finding of pigment post mortem means little in a resident in the tropics—that everybody might show this condition. Not only is this not so, but, on the contrary, Koch, in two post-mortem cases of blackwater fever in patients who had had many attacks of fever, records the complete absence of pigment in the organs, and we have also examined the organs of a patient long resident in malarial regions without finding a trace of pigment. It is necessary, however, in describing the existence of pigment to notice its amount and distribution, particularly as to its occurrence in the endothelial cells and the leucocytes of the tissues, e.g., spleen, for from this we can estimate the relation of the pigment to the actual attack. While in two of our collected cases we have not complete evidence on this latter point, yet in three post-mortem examinations made by us the evidence of very recent malaria was conclusive. It is important to note that one case in which before the blackwater fever there were numerous parasites, but afterwards none, showed post mortem in the spleen, not rings, but numerous parasites closely resembling developing gametes. Thin,[13] also, has recorded two cases where sporulating parasites were found in the brain post mortem with only a scanty development of pigment in the organs. With reference to Koch's two cases where pigment was absent it should be noted that death occurred on the ninth and fourth day of the disease respectively, possibly intervals long enough to allow of the disappearance of pigment resulting from mild attacks. We have, then, the following data with regard to the presence of pigment:—

Author.	Case.	Pigment.	Remarks.
Koch	1-2	Negative.	No parasites, no pigment.
Thin	3	Yes.	Pigment very scanty in spleen; sporulating parasites in brain.
F Plehn	4-16	Yes.	In all malarial pigment in organs, but sometimes very little.
Stephens and Christophers	17-21	Yes.	In all pigment in abundance.

This shows the presence of pigment in 19 out of 21—i.e., 90·4 per cent.

Bearing in mind our first conclusion that the absence of parasites did not necessarily exclude malaria, we have actual evidence of the existence of a malarial infection brought from these five points of view: (1) existence of parasites during the attack; (2) pigment and mononuclear percentage increase; (3) parasites before the attack; (4) parasites after the attack; and (5) the post-mortem evidence. To us it seems that this cumulative evidence is irresistibly strong. It is, perhaps, necessary to meet here an objection which has been raised of a similar nature to that brought against the post-mortem evidence—viz., that in any series of Europeans in the tropics taken at random would be found similar evidence of malaria. This supposition again is not supported by the facts, for of 44 Europeans examined among communities especially liable to malarial fever parasites were found with the greatest rareness and pigmented leucocytes not more frequently. Thus out of 44 cases only two showed parasites (crescents) and only two pigmented leucocytes—i.e., less than 10 per cent.—whilst if we include those patients who showed even a slight mononuclear increase the percentage still only reaches 20. For the complete details on these and other points we must refer to our reports to the Royal Society.

We regard, then, the evidence based on an analysis of our own cases as proving the existence of a malarial infection. If we consider also the evidence of a slightly different nature which we have brought forward we regard the conclusion that blackwater fever is essentially a malarial process as irresistible—that is to say, that blackwater fever can rarely, if ever, occur except in a person who is suffering from, or has quite recently suffered from, a malarial attack.

There still remains another side to the question—viz., is quinine the immediate cause of an attack of blackwater fever? Those who have so hastily criticised Koch and who attribute to Koch opinions not to be found in his writings do not appear to be acquainted with the fact that it was 40 years ago that Tomaselli[14] in Sicily published his first case of quinine intoxication in malaria, that F. Plehn and A. Plehn in the Cameroons have published a total of over 80 cases of blackwater fever, and that these observers had, before Koch worked on malaria, arrived at the conclusion that in the vast majority of cases quinine was the determining cause. Very exceptionally they allowed that the action of quinine could be excluded, and Koch has also virtually admitted this, suggesting that insolation even may be responsible for an attack.

There is little to be added to the question. Anyone who has read Tomaselli's, Plehn's and Koch's cases can surely have no doubt that quinine is the immediate cause of blackwater fever. In none of our cases could we exclude its action and the interval between the administration of quinine and the onset of hæmoglobinuria was very constant—i.e., from four to 10 hours. We, moreover, had one case in hospital (Case 4) in which quinine appeared definitely to induce a severe attack of hæmoglobinuria. It must be admitted, however, that it can be induced by other causes than quinine, for occasionally cases—e.g., by Plehn—are recorded in which it is positively stated that no quinine was taken. While not doubting this, we would point out how unreliable the statements of patients are, and we have notes of many cases in which the statements of patients on this point are directly opposed to the facts. Secondly, it is recorded among natives, who presumably do not take quinine. The authority of observers such as Plehn makes us accept the statement. We failed ourselves to find a case among natives; it was quite easy, however, to procure cases of so-called blackwater fever, but these were due to bilharzia hæmatobia. The state of things may perhaps be best illustrated by the analogy of hæmatoporphyrinuria. It is agreed that here sulphonal is the commonest cause, yet among those taking sulphonal it is a rare disease; on the other hand, it is not denied that hæmatoporphyrinuria also occurs among those who have not taken sulphonal.

It is worth recording here a series of observations we made on the isotonic point of the blood in malaria and blackwater fever. We found that in patients suffering more or less frequently from malaria the isotonic value is constantly raised, while in blackwater fever we found a value below that of normal blood. This low value, it is said, also occurs after loss of blood from various causes. In African natives also we found not uncommonly an isotonic value lower than that observed in any European. The difference was as great as 0·04–0·06 per cent. salt. It is possible that the raised isotonic value

[11] Ein Beitrag zur Behandlung der Malaria mit Methylenblau, Zeitschrift für Hygiene, Band xxxi., 1899, p. 317.
[12] Loc. cit.
[13] Brit. Med. Jour., 1899.
[14] La Intossicazione Chinica è l'Infezione Malarica.

in malaria may give some indication of the extent to which the corpuscles of the patient have been subjected to an injurious influence and so give some indication of those cases of malaria in which it would be dangerous to give quinine. It is interesting to note in this connexion that if to a dog a quantity of toluene-diamin be administered insufficient to produce hæmoglobinuria, yet we have in these cases a raised isotonic point—i.e., a lowered resistance of blood cell (Lapicque et Vast[15]).

Another factor that is of some use as an index of danger is the presence of albuminuria or a high-coloured urine. The colour in these cases is not due to bile pigment, but may be due to urobilin.

To conclude, blackwater fever is essentially a malarial infection in which quinine is the most common immediate determining cause of intoxication. Protection from malaria will insure protection from blackwater fever. Complete protection from malaria may, as my own two years' experience in tropical Africa under all kinds of conditions shows, be attained without the taking of any quinine, by paying scrupulous attention to clothing and the use of the mosquito net.

THREE CASES OF ACUTE DIFFUSE SEPTIC PERITONITIS RESULTING FROM APPENDICITIS; OPERATION; RECOVERY.

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CASE 1.—A lad, aged 13 years, was on Jan. 6th, 1900, getting ready at 1.45 P.M. to go into Newcastle with his mother, when he felt a little pain in his abdomen, low down on the right side. He spoke of it at the time, but, thinking that it was ordinary stomach-ache, he put on his coat and caught the 2 o'clock train at Heaton. Whilst shopping in town the pain became steadily worse and he had to walk about holding on to his mother's arm. Eventually he could bear it no longer and he was taken to the station, where he sat waiting for a train to go home. His mother then noticed that he was very ill. On arriving at Heaton at 4 o'clock he became much worse and was doubled up with pain, and whilst walking with great difficulty up the inclined way out of the station he vomited. After getting home he became feverish and was put to bed. At 10.45 he had a rigor and vomited again. At 1.30 A.M. on the 7th he was seen by Dr. A. Livingston who prescribed for him, and he slept until 7 o'clock, when he woke up feeling rather better but in a burning heat and the pain was still there. At 10 o'clock he was seen by Dr. F. Russell who found him delirious. During the afternoon he again had a rigor and he vomited twice. Heat was applied to the abdomen and gave some relief, but he still wandered in his talk. When I saw him with Dr. Russell (at 10 P.M.) he looked very ill, with pinched features, high temperature, rapid pulse, and dry tongue. His abdomen was slightly distended, rigid, and extremely tender all over. Dr. Russell agreed with me that his condition was due to general peritonitis and that the only useful treatment was an operation. As there was neither accommodation nor preparation for such treatment in his home, the boy was wrapped up in the bedclothes in which he lay and was at once taken in a cab to a private hospital. At 1 A.M., on the 8th—i.e., 35 hours from the onset of the illness—assisted by Dr. Russell, I operated by the method introduced by Mr. J. Rutherford Morison, making a long oblique incision from the outer edge of the right rectus abdominis upwards, outwards, and backwards into the loin. The abdominal cavity was full of milky pus and, after the excess had poured out of the wound, the appendix was found lying with its tip in the pelvis. There were no adhesions and the appendix was perforated. It was removed and the abdominal cavity was mopped out with gauze until all the pus appeared to have been cleared away. Gauze wrung out of normal saline solution was then put in as a drain; one piece in the pelvis, one amongst the small intestines, and one up to the liver. All the loose ends of gauze were brought out together at the hinder end of the wound. The wound was then sewn up in layers with catgut and a dressing was applied which was changed every four hours. The after history was uneventful and the boy is now perfectly well.

CASE 2.—A youth, aged 17 years, was at work on the morning of May 23rd, 1900, but he felt weary and complained of a little pain in the lower half of the abdomen. He went home and took his midday meal as usual and then lay down on a couch. Whilst so lying he felt a sudden acute pain in the abdomen, but did not vomit. His mother applied hot fomentations and gave him a dose of castor oil which acted freely, and he felt easier. (It appears that he had had two similar attacks—one two years before and the second a year afterwards—that both had been treated in the same way, and that each had passed off in a few hours.) He had a good night and in the morning he felt better, but he complained of feeling "sore across his belly." He got up, dressed, and lay on the couch. At 1.30 P.M. he jumped up suddenly and screamed with a violent pain in the abdomen. He then turned faint and vomited. He was seen for the first time by Dr. W. L. Ruxton at 3 o'clock, and at 4 o'clock I saw him in consultation. He was then very ill, with an anxious expression, a fast pulse, a slightly raised temperature, and a dry tongue. He appeared to be in great pain and his abdomen was very tender, hard, and slightly distended. He was taken at once in a cab to a private hospital where I operated at 7 P.M.—i.e., about 30 hours after the acute onset of illness—by the same method as was employed in Case 1. There was such a large quantity of similar milky pus that I turned him on to his side and allowed the pus to run out. His appendix, which was perforated and non-adherent, was removed, the abdomen was mopped out with gauze, and three gauze drains were left in—one under the liver, one in the pelvis, and one amongst the coils of small intestine—the ends of all emerging from the hinder end of the flank incision. During the two following days the patient was very ill and the abdomen became gradually distended with flatus. On the morning of the 27th he became unconscious, and I thought that he was dying. No flatus had passed for 48 hours. The tongue was dry, the teeth were covered with sordes, and the pulse was becoming weaker and steadily quicker. As no flatus came through an ordinary rectal tube I passed a Kelly's long sigmoid speculum, and a little flatus and watery fæces came away. By repeating this many times I got away what in the aggregate amounted to a large evacuation. The tube was passed every half-hour during the morning and afternoon, when, to my surprise, the pulse began to fall and the patient improved slowly through the night. He regained consciousness, made an excellent recovery, and is now in perfect health. I had never previously seen anyone who was so ill with acute septic general peritonitis recover.

CASE 3.—A married woman, aged 35 years, was on Nov. 13th, 1900, shopping all day in a town 10 miles distant from her home. On her return in the evening she did not feel well, and during the night she woke out of her sleep with great pain all over her abdomen. Having had similar attacks, which she had been told were due to appendicitis, on two previous occasions—the first in June, 1899, and the second six months later, during each of which she was laid up in bed for a few days—she thought that this illness arose from the same cause, and she sent for Dr. F. Hunton, of Sedgefield, who saw her on the morning of the 14th. Dr. Hunton found her with raised temperature, fast pulse, rigid but not distended abdomen, and marked tenderness in the right iliac region. During the morning she vomited. A purgative was administered and hot fomentations were applied. She continued to feel ill during the whole of the 14th, but the pain subsided somewhat towards night. Her bowels were moved and she vomited during the evening. At 1 A.M. on the 15th—i.e., nearly 24 hours after the initial attack—she was suddenly seized with excruciating pain in the abdomen, vomited immediately, and became very ill and collapsed. Early in the morning, when seen by Dr. Hunton, she was much worse than on the previous day. Morphia gave some relief. Early in the afternoon she was again seen and it was then noticed that her abdomen was beginning to swell. At 7 P.M. I saw her with Dr. Hunton. She was then looking very ill; she had pinched features, a dry tongue, and a feeble voice. Her pulse was rapid and hard. Her abdomen was moderately distended and the right iliac region was excessively tender, so much so that I could not make out whether or not there

[15] Comptes Rendus Hebdomadaires de la Société de Biologie, May, 1899, p. 369.

was a lump It was clear, however, that she was suffering from acute peritonitis, that her intestines were beginning to distend, and that if she could not be relieved she was likely to die. Believing that the source of the peritonitis was a rupture of the appendix we decided to operate at once, which I did by the same method as in Case 1 and Case 2. The appendix was found to be perforated and there was a great quantity of thin and milky pus amongst the small intestines, in the pelvis, and up under the liver. I removed the appendix, mopped up the pus with gauze until the peritoneum appeared to be clean, and then placed one gauze drain in the pelvis, another under the liver, and a third amongst the small intestines, bringing them all out at the after end of the flank incision. The following morning the temperature was 99° F., and the pulse was 100 and of good character. Slight sickness and hiccough, with some abdominal distension, were present. The gauze was removed on the fifth day. The patient made a good recovery and is now in excellent health.

These three cases are strikingly similar and are typical of the "fulminating" form of acute appendicitis which is the most fatal of all varieties. In the initial stages they were not distinguishable from ordinary cases of appendicitis in which recovery could take place either by resolution of the inflammatory process or by limitation of the disease to the formation of an abscess; yet in the more advanced stage, and without warning, the life of each patient was placed in immediate danger and death could only be averted by immediate operation, performed with the minimum amount of preparation which could be desired. In each of these cases there was a premonitory stage, lasting for a few hours, during which the patient felt unwell and uneasy in the abdomen. This was followed by the sudden development of acute symptoms which subsided somewhat after several hours of severe pain. This lull was followed in about 24 hours from the initial acute attack by strikingly violent and sudden increase of all symptoms and in seven or eight hours more the abdomen was found to be full of pus. In each case the appendix was seen at the operation to be acutely inflamed without any surrounding adhesions and to have a gangrenous perforation through its walls

The interpretation which I put on these symptoms is as follows. The appendix being strictured, or an enterolith becoming impacted fluid collected and distended the appendix, causing uneasiness—appendicular colic. This, I believe, might pass away and give no further trouble, but the tension in the appendix increased and then the pain, owing to the stretching of the peritoneal coat, became very great—the initial attack. The contents being septic, and no relief of tension having taken place, the appendix became acutely inflamed and the pain was aggravated—the period of local pain and of feverish symptoms. As the inflammatory process advanced the walls of the appendix gradually softened and lost their power of keeping up tension—the lull, during which the patient felt less pain, in fact, was "rather better." The relief was similar to that experienced when an inflamed lymphatic gland goes on to suppuration, for in such a case the pain becomes less when the capsule of the gland softens and stretches. After this period of relieved tension the peritoneal coat of the appendix gave way at one or more points, possibly where the gangrenous process had been accelerated by the pressure of an enterolith, and the septic contents escaped—the acute exacerbation of pain and vomiting. The entire process was so rapid that no adhesions had time to form, and from this stage onwards the symptoms of acute appendicitis became lost in the much graver symptoms of acute general septic peritonitis.

If, as I believe, the above is a true picture of the pathological process as revealed by the symptoms in these "fulminating" cases, then it may be possible to formulate some rule which will enable us to recognise them and to operate before such a catastrophe as general septic peritonitis supervenes; for the process differs only from the course of events in ordinary cases, which terminate by resolution or in the formation of an abscess, in the virulence and rapidity of the process and in such changes as are due to that rapidity. The difference is one of degree but not of kind. I do not wish to advocate operating in all cases of acute appendicitis; on the contrary, I believe that it is a fact, which is borne out by the experience of every medical man who is engaged in general practice to whom I have spoken, that for one case which requires operative treatment there are many which do well without operation. Not only many medical men but nearly every layman has been shocked by the death of some patient or acquaintance from peritonitis within two or three days of his being seen in perfect health. These cases are almost without exception examples of peritonitis following fulminating appendicitis; and although they represent only a small percentage of the total number of cases of appendicitis they actually amount to a great number. On Nov. 16th, 1900, I saw a man, aged 38 years, with the following history. He was at work all day on the 14th. During the evening, being then in his usual health, he went to the water-closet, but returned to the house looking ill and complaining of pain in his abdomen. The pain continued all night and he vomited. He was ill all the next day. Early in the morning of the 16th the pain became much worse and he vomited; he looked very ill and his abdomen commenced to swell. At 6.15 P.M. I saw him in consultation. He was lying on his right side with his legs drawn up. His abdomen was greatly distended and was dull in the right half; it was very tender, especially in the right iliac region, where there was a lump as big as a fist—so tender that the man cried out when it was touched although he was then dying. His medical man told me that this was the third similar case in his practice in a fortnight where the patients had died and all of them had died within 48 hours of the onset of symptoms.

In cases where adhesions are formed and an abscess develops there is not the same immediate necessity for operation as in these acute cases, where prompt action must be taken because a very few hours' delay may result in the death of the patient; therefore it is of the utmost importance to be able to recognise these urgent cases before perforation of the appendix occurs. The rule which I follow is this. If the patient is seen within a few hours of the onset of the illness hot fomentations are applied to the abdomen. Morphia is only given in cases of urgent need. I then wait and see what progress is made. If there is steady improvement waiting is persevered in as long as this continues. By "improvement" I mean improvement in *all* the symptoms. It is not enough that pain and tenderness should be less, for the period during which the pain diminishes may be the very time in which an operation should be performed. All the symptoms should subside together: the temperature should fall, the pulse should become less frequent, local pain and tenderness should grow less, and the patient should look better. The last is an uncertain quantity but a very important one. The chief points are a diminution of the local tenderness and lessened rigidity of the muscles, but these must not be taken as a certain guide when the patient continues to be otherwise ill. In illustration of this I may mention a case which I saw on May 2nd, 1899, with Dr. George R. Murray and Dr. W. T. Hall, at Whitburn. The patient was a little girl suffering from a first attack which began the day before. The local pain and tenderness had much improved, but the child still looked flushed and ill, and had a foul tongue and raised pulse and temperature. We decided to operate at once because we thought that the greater risk lay in leaving her alone. The appendix was found to be lying across the pelvis with its tip near the brim of the left side. There were no adhesions whatever, and the peritoneal coat of the appendix was bright scarlet, whilst, on opening it, the mucous and muscular coats were seen to be completely gangrenous. We all felt sure that this was a case in which general peritonitis would have followed sloughing of the entire appendix, as the inflammatory process was advancing so rapidly that there was no reasonable prospect of localisation by adhesions. This child—assuming my previous explanation to be the correct one—was operated on during the period of ease in which the peritoneal coat of the appendix had softened and relaxed sufficiently to reduce the tension and with it the local pain and tenderness, but the improvement in local symptoms was no indication of subsidence of the disease.

If such a rule be followed—namely, to remove the appendix in very acute cases which at the end of 24 hours do not improve in *all* the symptoms—a large number of lives will be saved which are often, perhaps usually, lost through the operation being performed after perforation has taken place. At the same time, it is obvious that by applying such a rule a number of cases will be operated on in which, although the appendix is on the point of giving way, it is yet guarded by adhesions. Against this must be placed the risk of waiting and the possibility of abscess formation, and above all the simplicity and safety of operating at this stage must be taken into account. This, however, must not be made an excuse for a

hard and fast rule of treatment that all cases of acute appendicitis must be operated on. Surely that is not sound surgery. If the appendix has perforated and general peritonitis has become established it is then a matter of supreme importance to operate without any unnecessary delay—unless the abdomen is distended with flatulent intestines or the hands are cold and red, when it is best not to operate at all, as there is evident general vascular and nerve failure and any operation could only hasten death.

In the first few hours of acute general peritonitis the distension is not due to gas in the intestines, but to a collection of thin milky-looking pus in the general peritoneal cavity; whereas in the later stages there is little or no fluid and the distension is due to gas in the intestines, which are then dark-coloured, dry, and sticky, with adherent lymph on the peritoneal surfaces, suggesting that the wall of the intestine has played the part of a sieve, allowing the fluid to pass through but retaining the solid portion of the pus as a covering of lymph.

The method of draining the peritoneal cavity with gauze appears to me to be preferable to that by drainage through a tube. When the coils of the intestines are lying in close apposition it does not seem to be a hopeful way to drain with a tube which can only be efficient for a limited area. It seems difficult to drain the pelvis against gravity by means of a tube which can only do good by relieving tension and allowing the pus to empty freely from the upper end. On the other hand, by using gauze drains packed loosely amongst the intestines a very large area of the peritoneal cavity can be drained, and more than drained, for the gauze acts as a suction pump and will for days continue to empty the peritoneal cavity as a wick will empty a bottle. It is not a painful operation to withdraw such gauze if it be left in for five days. The attempt to do this on the second or third day gives great pain, but later the meshes of the gauze are filled up by lymph which makes its surface smooth and slippery and its removal easy.

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RESECTION OF THE SUPERIOR CERVICAL GANGLION OF THE SYMPATHETIC FOR GLAUCOMA AND ITS RESULTS.

BY H. WORK DODD, F.R.C.S. ENG.,

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IT may be seen on reference to a contribution by me on this operation which appeared in THE LANCET of Oct. 13th, 1900, p. 1071, in which I described my first case, how I there advanced the opinion that "if such an operation does permanently and satisfactorily arrest the glaucoma, preserve the sight, relieve the pains, and restore the patient to even comparative comfort, then I consider it may be undertaken." I may at once say that the later results of this, my first case, as also those of my second case, which I here briefly describe, are not so favourable as to lead me to regard the removal of the superior cervical ganglion of the sympathetic as successful in the cure of chronic glaucoma. It may, perhaps, be repeated here that these operations were based upon the work of Dr. Jonnesco of Bucharest.

My second case was that of a fairly well-nourished country woman, aged 44 years, unmarried. She was admitted into the Royal Free Hospital under my care on Oct. 16th, 1900, suffering from chronic glaucoma in both eyes. The disease commenced about two years before this date, when she began to have pain in the left eye which was operated upon in January, 1900. After the operation the eye was better for a while, but gave trouble again about three months later, and at this time the right eye also became painful. Both eyes were operated on in June, 1900, and the left one again in the following September. The pain and other symptoms not having lessened since this last operation, Dr. E. E. Maddox of Bournemouth, under whose excellent care she had been, thinking her a suitable subject for the bilateral removal of the superior cervical ganglions of the sympathetic, kindly sent her up to me for this operation, he having been interested in my previous case. When 20 years of age, that is about 24 years ago, the patient had cataracts removed from both eyes. Her general health had always been good.

On admission, in the right eye there was a large coloboma from iridectomy in the upper part of the iris which otherwise appeared to be fairly normal and free. There was no lens and the edge of the remaining capsule could be seen. The tension was about + 3. The field of vision was considerably and irregularly contracted. The disc was cupped and the fundus showed other signs of chronic glaucoma. The vision = $\frac{1}{10}$ $\bar{c}$ + 11 D = $\frac{6}{9}$. The patient complained of constant pain, varying in intensity, in the eye and head. In the left eye there was a large operative coloboma upwards, the iris being otherwise practically normal. The lens was absent and the pupil area showed some remains of capsule. There was also a very little pericorneal injection. The tension was about + 3. The vision was reduced to perception of light only. The disc was cupped and there were other indications of glaucoma in the fundus. The patient had a considerable amount of pain, more or less constant, in this eye, which also was somewhat tender.

In my former case I removed the two superior cervical ganglions at one sitting, but I found this to be a somewhat heavy and trying experience for the patient. Wishing also to notice the effect of the unilateral operation I determined in this case to remove the ganglions at different times. Accordingly, on Oct. 19th I removed the superior cervical ganglion of the left side. The operation chosen was that described by Dr. Jonnesco under the name of "pre-mastoid" which has been previously fully reported in my communication alluded to above and therefore need not be repeated here. Immediately after the resection of the left ganglion the tension of the eye became a soft normal. On the next morning there was slight ptosis, the eyeball appeared to be a little sunken in the orbit, and the tension remained a soft normal. There was also a little injection of the conjunctiva. On the 22nd the tension was still low. There was some alteration in the voice, which sounded somewhat gruffer than usual, and it hurt the patient to talk. She protruded her tongue with difficulty. There was no excessive amount of mucus in the pharynx. She did not complain of any pain in the neck or head on that side. There had been no pain in the eye since the operation. On the 26th the wound was practically healed and the patient sat up for a short time. On Nov. 1st the patient felt very well, the wound was quite healed, and there was no pain in the eye. The tension remained soft. On the 5th the same operation was repeated on the right side of the neck, with like results as to tension, ptosis, &c. The stitches were removed on the 12th, and on the 15th the wound was quite healed, the case having done uninterruptedly well since the operation. On this day there was no pain in the right eye and the tension was a soft normal. On the 16th the patient complained of some pain over the right eye during the previous night. The tension in the right eye was normal, but that in the left eye gave a faint suspicion of being slightly raised. On the 19th the tension was normal in both eyes. There was no pain in either eye nor in the head. The ptosis had practically disappeared. The field of vision of the right eye was considerably increased, and the vision itself had improved from $\frac{1}{10}$ to $\frac{6}{9}$ without glasses, $\bar{c}$ + 11 D sph. = $\frac{6}{9}$. The patient was discharged on the next day.

The method of operating at intervals on the two sides of the neck appears to be a more satisfactory procedure than that of removing the two ganglions at one time.

Dr. Maddox, about Christmas time, kindly reported by letter that the tension had returned and that he found it necessary to employ pilocarpine drops. On Feb. 18th, 1901, Dr. Maddox wrote to say that the tension was then + 2. The eyes then have returned to the same state as they were in before the operations for the removal of the ganglions were performed. Therefore, though in this case the immediate effects were extremely favourable for a few days, the permanent result of the operations for the cure of the glaucoma is *nil*. Inasmuch as this patient had no lenses she was thought to be a suitable subject for this operation. The possibility of the glaucoma resulting from cicatricial changes was naturally also considered.

I also here give the final results of my former case.[1] It can be seen on reference to the details that in that case also the immediate effects were distinctly satisfactory. It is

[1] THE LANCET, Oct. 13th, 1900, p. 1071.

now about seven months since the operations were performed. The vision of the patient is exactly what it was before I removed the ganglions and the tension is about +1 which is about the same as formerly. The pupils, however, which became contracted at the operations, remain so, and are active to light and to accommodation. The patient thinks that the pains in the eyes and head are in no way lessened. In the region of the scar on the right side of the neck she frequently has a moderate amount of pain which seems to run "into the throat and up into the back of the head." She herself does not consider that she has derived any benefit from the operations. I therefore again express my opinion that from the results obtained from these two cases the removal of the superior cervical ganglion of the sympathetic system does not cure chronic glaucoma.

The central origin of chronic glaucoma may be a fact, but if it be so, the removal of the superior cervical ganglion apparently does not interrupt the connexion with the eye. Either the connexion is not by this route or some other means of communication are established very soon after the resection of the ganglion. These cases seem rather to point to chronic glaucoma being a peripheral trouble.

Harley-street, W.

THE ELIMINATION OF ARSENIC THROUGH THE HAIR AND ITS RELATION TO ARSENICAL POISONING.

BY EDMUND KNECHT, PH.D., F.I.C.,
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AND
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THE differentiation of arsenical peripheral neuritis from ordinary alcoholic peripheral neuritis has been hitherto purely a clinical one, though it must, of course, be granted that when Dr. E. S. Reynolds made his alarming discovery of the prevalence of the arsenical form in beer-drinkers the necessary confirmation was provided by the detection of arsenic in the beer which those people had been in the habit of drinking. Such confirmation, whilst undoubtedly of great value, could not, however, be universally applied as an aid to diagnosis, and a method of detecting with certainty the arsenical causation in any particular case has naturally to be sought in another direction. The ability to detect the specific bacterial causation of certain diseases has made a wonderful difference in the accuracy with which such complaints can be diagnosed, so that, from analogy, we would naturally conclude that the ability to separate from the body and estimate with certainty the specific agent in the causation of arsenical peripheral neuritis would prove of immense value. The difficulties, however, surrounding investigation with this object in view have up to the present been insuperable. It is well known that arsenic is rapidly eliminated from the system *viâ* the kidneys and can be readily detected in the urine, but this test can only apply to cases where the ingestion of the contaminated material has been recent. The deposition of arsenic in organs such as the liver can be left out of the question, at any rate during the life-time of a patient. Again, the predilection of arsenic for the skin and its appendages is common knowledge and Mr. W. Kirkby has gone so far as to confirm a diagnosis of arsenical neuritis by the detection of the noxious element in a scab from the patient's body. Scales are but rarely met with in cases of this character, but there are very few patients who do not possess some amount of hair upon the body. As a quantity of hair sufficient for analysis can easily be removed and taken away for investigation, it certainly does appear strange that such should not have been better made use of as a medium of universal efficacy for showing that arsenic has been present in the system. Dr. Dixon Mann in his work on forensic medicine simply notes the fact that arsenic has been detected in the hair, but no English writer appears to have gone further into this phase of the subject. The likely explanation of this is to be found in the difficulty of estimating arsenic in the hair by the ordinary methods.

As having a direct bearing upon this question, it is well to draw attention to an article in the *Comptes Rendus* of August 6th, 1900, by Armand Gautier of Paris. This observer takes an important and extended view of the part played by arsenic in the animal organism and makes special reference to the function normally exercised by hair as a means of eliminating this element from the system. He does not, however, deal with the question from a pathological point of view, nor does he state any quantities except in the case of the thyroid gland and the blood. If Gautier's construction respecting this special eliminating function be correct, it might reasonably be expected that the hair of people taking an abnormal amount of this drug for any length of time would contain the element in an increased and appreciable amount. That such is the case is beyond doubt.

Samples of hair taken from six people (males) were submitted to analysis. Two samples were from well-marked cases of arsenical beer poisoning, another from a patient who had been taking one-ninth of a grain of arsenic per diem for an extended period, and three from healthy individuals, aged respectively 16, 23, and 35 years. In the three last-named samples arsenic was found to be present, but in quantities too minute to be estimated in one gramme of substance. The sample from the patient who was taking the drug medicinally was found to contain arsenic in the proportion of 0·3 in 10,000. One of the two patients who were the subjects of arsenical beer poisoning had present in his hair arsenic to the extent of 0·3 in 10,000, whilst the other showed the much larger proportion of 1 in 10,000. The vast difference in the proportion found in these samples to that in the three healthy samples shows in a marked manner the value of chemical analysis of the hair from a diagnostic point of view.

The estimation of arsenic in the hair may also prove to be of immense value from a medico-legal point of view—viz., in the post-mortem examination of cases of chronic arsenical poisoning, and particularly in exhumed bodies, since hair is one of the last parts of the body to undergo organic decomposition.

The method employed in the estimation of arsenic in the samples referred to above was Sanger's modification of the Marsh test. To preclude the possibility of any of the arsenic being overlooked by reason of its being present in the hair in organic combination the weighed samples (one gramme) were in each case first dissolved in fuming nitric acid (specific gravity, 1·5), and after boiling in this until the violent evolution of nitrous fumes had subsided the solution was transferred to a glass tube which was carefully sealed and heated for two hours to 250° C. The tubes were then opened with the usual precautions and the solution was evaporated to dryness to expel all nitric acid and then transferred to the Marsh apparatus. At least two estimations were carried out in each case.

A SHORT ACCOUNT OF A FATAL CASE OF LARYNGEAL DIPHTHERIA COMPLICATING MEASLES.

BY GEORGE J. MAGUIRE, M.B., B.CH. R.U.I.

THE interesting cases recorded in THE LANCET of Feb. 2nd (p. 321) and 23rd (p. 549), 1901, where these two diseases were synchronously manifested, give rise in one's mind to some doubt as to whether the rarity of this particular mixed infection is not apparent rather than real, and due more to the paucity of published notes than to the scarcity of clinical material. The following short account of a case that impressed me very strongly at the time, and of which many of the details remain vividly in my mind, may prove not to be uninteresting.

In the spring of 1898, during an epidemic of measles in the district of Paddington, I saw an infant, aged about 18 months, who was covered with a typical exanthem and had all the typical symptoms of morbilli. The other children of the family, and of the two other families occupying the different floors of the house, were in various stages of recovery from the disease. As the infection seemed to be pursuing an ordinary course no medical advice was sought. In the early morning of the day on which I

visited the child, however, some difficulty in breathing had suddenly arisen and was gradually increasing, so that the mother became alarmed and sent to the surgery. When I saw the infant it was suffering from the most intense inspiratory dyspnœa, all the muscles of respiration, ordinary and extraordinary, being in violent action, air being drawn into the lungs only by the strongest efforts and a loud crowing noise accompanying every breath. The child was somewhat cyanosed and evidently in terrible distress. The possibility of membranous obstruction, probably diphtheritic, at once suggested itself; but on careful examination of the pharynx not a vestige of membrane was anywhere to be seen. The mother was most positive in her assurances that neither the patient nor any other member of the family had had sore-throats and that there was no diphtheria in the house, though in the same street a few houses away there were one or two cases. I saw the child again in the afternoon and evening, and at the fourth visit, as the remedies, medicinal and otherwise, that were ordered had brought about no alleviation of the symptoms, and as the condition of the child was gradually and steadily becoming more serious, I sent it to St. Mary's Hospital for tracheotomy. The operation was at once performed, and successfully, but the patient never rallied, dying some few hours afterwards. I communicated later with the hospital authorities, and learned that the operation had afforded much relief, but that the child was too collapsed for it to be of much avail. It was further stated—what is in view of the subject the most interesting fact—that the cause of the condition was very uncertain, and it was not till the necropsy that it was cleared up. It was then found that the larynx was almost occluded by a thick, tough membrane, clinically that of diphtheria, and proving on bacteriological examination to be diphtheritic. There had been no definite objective sign, nor was it possible to diagnose the case till the necropsy.

Had there been no post-mortem examination in this case it would have escaped recognition and a focus of infection would not have been notified to the local health authorities. It is highly probable that many cases of diphtheria go unnotified, either because of the mildness of the symptoms, subjective and objective, or from some concomitant masking of them.

Richmond, Surrey.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

WASTED QUININE PILLS.

BY JOHN CURNOW, M.D., F.R.C.P. LOND.

A PATIENT suffering from enteric fever, after 22 days of pyrexia of a very intermittent type and obstinate constipation, was treated on Feb. 4th with five grains of quinine in the form of two pills three times a day. On the 11th, after a simple enema, the pills were found in the stool. They were seven in number, hard, and apparently unacted upon by the gastric or intestinal juices. Enemata had been given on the 4th, 6th, 8th, and 10th, as well as on the 11th. It was subsequently ascertained that in making the pills water had been used instead of the glycerine ordered in the Pharmacopœia. The pills were not coated.

Wimpole-street, W.

A CASE OF HYDROPNEUMOTHORAX.

BY EDWARD FRAZER, L.R.C.P., L.R.C.S. IREL.

THE history of the following case and the treatment adopted may be of some interest.

On Jan. 1st I was called to see a girl, aged 22 years, who had been complaining of illness for five days previously. I found her quite delirious; her pulse was 140 and very feeble, her temperature was 103·8° F., and her respirations were 44 per minute. On examination she presented all the symptoms and physical signs of left pleural effusion with considerable displacement of the heart. The respiratory murmur over the left apex was absent and on percussion there was a distinct tympanitic note to the lower border of the third rib. The condition of the patient demanded immediate interference, so I at once decided upon aspiration and removed over two pints of a greenish, cloudy fluid, with numerous small flakes of lymph floating in it. The patient was put on a suitable diet and was given a mixture of iodide of potassium with cinchona. The removal of the fluid had no effect on the apical note. I again saw the patient on the 4th and found that the delirium had passed off. Her respirations were now 32, her temperature was 102·5°, and her pulse was 134. There was a considerable amount of fluid in the chest. On the 6th I removed one and a half pints of fluid similar to the first in appearance. The apical note was still unchanged. On the 11th I found the fluid was increasing, and on the 17th I again removed over a pint of a darker and more cloudy fluid, leaving almost as much more in the pleura. It had now become evident that the air at the apex must be got rid of in some way or otherwise the patient would not recover. Accordingly, I procured a small hollow needle, and having fitted it to the indiarubber tube of the aspirator I placed the patient on her knees and chest, when the air, with a never-to-be-forgotten gurgling sound, rushed to the back of the chest. The patient, unfortunately, could not remain in this attitude, and on resuming the dorsal position the air immediately returned to the apex. I then passed the needle into the chest along the upper border of the third rib and in an upward direction and removed a considerable quantity of air. The patient experienced instant relief. I then firmly strapped the chest. On the 30th I removed the strapping and aspirated half a pint of fluid somewhat clearer than on the third occasion. The after treatment consisted of iodide of potassium with tonics, small blisters, and a good sustaining diet. The patient is now convalescing and there is only a trace of fluid left. How the air got into the pleural cavity remains a question. There was no injury and no trace of phthisis. The result of the case seems fully to justify the treatment adopted.

Riverstown, co. Sligo.

NOTE ON A CASE OF ENTERIC FEVER WITH SEVERE HÆMORRHAGE FROM THE SIGMOID FLEXURE.

BY STEPHEN G. LONGWORTH, L.R.C.P. IREL.,

ASSISTANT MEDICAL OFFICER TO THE SUFFOLK COUNTY ASYLUM.

AN imbecile patient, a female, aged 26 years, in the Suffolk County Asylum, sickened on Nov. 2nd, 1900. The nature of her illness during the first week was very indefinite and was regarded as being probably nothing more than constipation. Her temperature, which was 101° F. on the first day, fell gradually and reached almost to normal on the fifth day. Her bowels, which had been confined for three days prior to the commencement of her illness, were opened by means of simple enemata. On the evening of the fifth day her temperature again commenced to rise, reaching 101° on the evening of the seventh day. She had some diarrhœa on the seventh and eighth days, but for the three following days she passed ordinary-formed motions. On the evening of the ninth day the temperature again commenced to rise and it continued to do so for the four following days. There was generally a rise of about 1·5° each evening and a fall of about one degree each morning. The temperature reached 103·4° on the evening of the thirteenth day, diarrhœa again supervened, and rose spots appeared for the first time. On the morning of the fourteenth day the patient suddenly became collapsed and her temperature fell by 3·5°. This was followed in the course of half an hour by the passage of at least a pint of dark red blood-clot per rectum. By the evening she had rallied, and for the next few days the temperature ranged between 101° and 102·5°. There was also constipation. (It should be said that the patient was taking opium.) Examination of the blood on the fourteenth day gave a positive reaction to Widal's test and the urine showed a marked diazo reaction. During the afternoon of the seventeenth day her temperature again fell suddenly from 102·4° to 96·8° and she became collapsed. This was followed almost immediately by the passage of about another pint of similar dark red blood-clot from the bowel. The patient never completely rallied from this hæmorrhage; although her temperature rose again to 102° on the

eighteenth day her pulse remained at about 140 and very thready in character. On the nineteenth day another recurrence of the hæmorrhage took place and on the day following she died.

At the post-mortem examination, which was made 12 hours after death, the condition of the small intestine was as follows. The mucous membrane of the ileum as a whole was pale; it presented about a dozen superficial ulcers which varied in size from one-eighth of an inch to one inch in diameter. The bases of the ulcers were clean and free from sloughs and showed no signs of hæmorrhage having taken place from them. As regards the large intestine, the sigmoid flexure, as viewed before opening, presented for about six inches in extent a purplish colouration, the peritoneum over it having its usual glistening surface. On opening up this portion it was found to contain a mass of dark red clot which was firmly adherent to the mucous membrane. On detaching this, which was done with some difficulty, the mucous membrane was seen to be quite free from ulceration, but there was a general thickening of the walls corresponding to the extent of the discolouration and due to a hæmorrhagic infiltration of the coats of the bowel. The remainder of the large intestine was quite normal. The spleen was much enlarged, congested, and weighed 340 grammes.

The above case ran a more than usually obscure and atypical course, but the point of special interest was the site from which the hæmorrhage took place. After having seen the pathological condition and on referring to the clinical notes of the case one might perhaps regard as a point of differentiation between hæmorrhage occurring from the usual site and hæmorrhage taking place much lower down in the bowel (as in this case), the fact that the passage of the blood per anum followed so soon on each occasion after the external manifestations pointing to internal hæmorrhage. Another point also in favour of this idea was that the blood-clots passed were on all occasions quite unmixed with fæcal matter. The only other case of which I can find any record in which possibly the post-mortem appearances might have been similar is one mentioned by Dr. Julius Dreschfeld.[1] He states that he has seen one case in which hæmorrhagic infiltration of the whole of the large intestine was found post mortem.

Suffolk County Asylum, Melton.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

SALISBURY INFIRMARY.

A CASE OF PERITONEAL CYST SIMULATING OVARIAN CYST; LAPAROTOMY; RECOVERY.

(Under the care of Dr. GILBERT KEMPE.)

THE very rare condition described in the following case is somewhat difficult of explanation. Such a cyst might be derived either from the formation of extensive pleuritic adhesions or from the persistence and dilatation of some fœtal structure. The former hypothesis is in this case hardly tenable, and it is probable that the cyst was derived from some congenital abnormality, though it is difficult to say what the abnormality was. Occasionally urachal cysts (that is, cysts due to a dilatation of a urachus which was closed at both ends but not between) may attain large dimensions.

A married woman, aged 39 years, was admitted into the Salisbury Infirmary on Jan. 23rd, 1901, for progressive enlargement of the abdomen of about 12 months' duration. The patient, who had always been healthy, was the mother of four children, the last child being born four years ago. She got up on the fourth day after confinement and was very ill and had to return to bed again. There had been no miscarriages. The catamenia had been regular every four weeks, being normal in character and duration. The abdomen had been steadily enlarging for the last 12 months. This enlargement had been painless and the only trouble had been that of obstinate constipation. She had lost flesh lately.

On admission the patient was somewhat emaciated and had the characteristic facies. The abdomen presented the usual appearance of a large unilocular ovarian cyst. On the skin were many large scars which the patient said were the result of boils, from which she suffered about two years ago. Many of these scars were of the size of a shilling. The whole of the abdomen was occupied by a large tumour, the greatest circumference (42 inches) being just below the umbilicus. Midway between the umbilicus and the pubes a broad flat transverse band could be seen, which was resonant to light percussion and was evidently the transverse colon. On palpation the tumour fluctuated readily, and a fluid thrill could be felt over the whole of it. The tumour seemed to be fairly moveable and the abdominal wall appeared to move over it. The whole of the abdomen was dull to percussion, with the exception of the transverse colon above-mentioned and some slight resonance in the left hypochondrium and in the flanks. Per vaginam the uterus was drawn up almost out of reach but did not seem to be connected with the tumour. A slight sense of fluctuation was felt in the anterior fornix but none in the posterior. There was no evidence of any secondary deposit.

Laparotomy was performed on Jan. 25th. An incision was made in the middle line from the umbilicus to one and a half inches above the pubes. On opening the abdominal cavity the parietal peritoneum was found to be closely adherent to what appeared to be the cyst wall. An attempt to separate it failed. The cyst was then tapped with a glass cannula and 21 pints of fluid were drawn off. The fluid was dark green in colour and was sparkling with cholesterin crystals. A further attempt was then made to separate the cyst which again failed and the cyst was opened and explored from within. Both ovaries and tubes and part of the fundus uteri were found within it and were apparently healthy. Laterally the cyst extended into both flanks. Superiorly there was a large cul-de-sac extending to the posterior margin of the liver. The stomach and transverse colon could be identified in the anterior superior wall. No small intestines could be seen or felt. The kidneys and spleen could be felt behind the cyst wall. No attempt to remove the cyst wall seemed likely to be successful, so the wound was closed and a drain was inserted into the cyst at the lower angle of the wound. No dermoid structure was seen or felt.

The after-progress was satisfactory. The temperature never rose above 100°F. The drain was removed on the third day and the sutures were taken out on the tenth day. The walls of the cyst seemed to fall together quite easily. On Feb. 10th the wound was quite healed with the exception of a small granulating area where the drainage-tube had been. Palpation of the abdomen revealed nothing abnormal except around the abdominal incision, where there was a hard and seemingly solid tumour of about the size of half an orange, which was not tender and was freely moveable. This was considered to be the contracted cyst wall and showed no signs of refilling. On March 2nd the patient was discharged from the hospital quite well.

Remarks by Dr. KEMPE.—This case is reported on account of its rarity. Serum-containing pseudo-cysts of encysted peritonitis are not uncommon but it is, I think, rare for such a cyst to contain a fluid holding an abundance of cholesterin crystals in suspension. The mimicry between this cyst and an ovarian cyst was singularly complete. Four other medical men saw the case and concurred in the diagnosis and it was not until the ovaries and tubes were found within the cyst that the true state of affairs was made clear. The presence of the cholesterin is not easily explained; there was no bile in the fluid nor was any connexion with a dermoid cyst apparent. Perhaps it and the colour of the fluid resulted from some old hæmorrhage or inflammation. The glass cannula mentioned I invariably use for emptying ovarian cysts, &c. It consists simply of a plain glass tube with a rubber tube attached to carry away the fluid. A small opening is made in the cyst with a scalpel which is plugged with a finger until the glass tube is inserted; this can readily be made to fill the opening by holding it more or less obliquely to the surface of the cyst.

[1] Enteric Fever: Allbutt's System of Medicine.

It is easily cleaned, is not so complicated in use as any of the ovariotomy trocars sold, and fulfils every purpose for which it is wanted.

I am indebted to Mr. R. T. Richmond, house surgeon, for the notes of the case.

BIRMINGHAM GENERAL HOSPITAL.

A CASE OF DERMATITIS FOLLOWING ACUTE LICHEN PLANUS.

(Under the care of Dr. T. SYDNEY SHORT).

WITH regard to the following case of lichen planus the fact that the mother of the patient was also affected with the disease is of interest, for it is not usually considered to be hereditary in origin. The very extensive character of the rash is also noteworthy.

An anæmic young woman, aged 21 years, was first seen on Nov. 8th, 1900. She said that she first noticed an eruption which itched badly in June. It came out in small pimples with flat tops on the inner surface of the right arm near the wrist. She thought that they were heat lumps as they kept her awake at night on account of the itching they produced and the consequent scratching which ensued. Within a week a large number of pimples came out on the front and inner surface of the right thigh. Here the pimples soon formed patches and were terribly itchy. Somewhat rapidly they then broke out on her back and on the front and back of her chest, being especially abundant between the breasts; they also appeared on the calves of the legs, being accompanied in this position by much swelling. The worry and loss of sleep consequent on the continual itching had rendered her weak and ill so that she lost flesh and colour.

When seen the patient was covered practically all over the body, with the exception of the face, ears, hands and fingers, and toes, with a very characteristic lichen planus rash. Here and there were small areas of healthy skin in wavy lines along the arms and upper parts of the legs; but all the trunk, the legs below the knees, and even the backs of the feet, were completely covered. The rash consisted of the characteristic quadrangular flat-topped shiny papules in large closely-packed patches with outlying papules. They were covered with a fine scurfy scale which sparkled when viewed sideways in a strong light. The ankles and feet were very much swollen and both legs below the calves were covered with a thick purplish skin of the typical vinous hue, having a rough coarsely granular surface with much infiltration. Her legs ached so that she could scarcely stand. The right leg was worse than the left, the thick bluish hide extending upwards to the lower part of the thigh being extremely well marked on the inner side of the knee. The mucous membranes showed no sign of any eruption. It is noteworthy that the palms and soles were not affected in this case.

The patient was admitted into the Birmingham General Hospital under the care of Dr. Stacey Wilson, to whose courtesy Dr. Short was indebted for the opportunity of continuing the treatment of the case. This consisted of a warm bath with a good soaping all over, rapid drying, and then complete inunction with an ointment composed of equal parts of unguentum sulphuris and unguentum hydrargyri ammoniati put on in sufficiently large quantity to saturate the sheet in which she was closely rolled and kept. A considerable amount of dirty scaling took place during the first week. The papules gradually lost their shiny tops and the swelling of the legs diminished. The intense itching was relieved by the first thorough inunction and troubled her very little afterwards. She was kept closely rolled in the ointment-saturated sheets for five weeks, with a soap bath each week. She was then allowed to be up with sufficient ointment rubbed in to keep her underclothing greasy. On Jan. 10th, a week after her discharge, she showed no papules at all; the thickening of the skin of the legs had not quite disappeared, but the vinous hue had gone. The whole of the skin which had borne the eruption was stained with dark bronze-looking pigment, which was, she said, daily becoming fainter. Her general condition was greatly improved. No arsenic was given in this case, the only internal treatment being carbonate of ammonia and gentian as a tonic, nor was any soporific required, the external treatment being alone relied upon, and this cleared off the papules in six weeks.

Remarks by Dr. SHORT.—It is interesting that the mother of this patient has suffered from chronic lichen planus for 21 years. Hearing that she had a rash I sent for her and inspected a patch of well-marked lichen planus over the lower part of the back. She said that the rash first appeared six days after her daughter was born and had been present on and off since. She might be free from it for so long as two years at a time. It itched a good deal when it came out, but it did not trouble her much. When the itching was particularly annoying she had some treatment but not otherwise.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Lysigenic Action of Sera.—Observations on the Bactericidal Action of Blood.

A MEETING of this society was held on March 19th, Mr. W. WATSON CHEYNE, the President, being in the chair.

Dr. W. BULLOCH made a communication on the Lysigenic Action of Sera. After referring to the fundamental facts of the destruction of bacteria by serum he alluded to the experiments of Watson Cheyne, Fodor, Wyssokowicz, Nuttall, Behring, and Nissen, and pointed to the gradual evolution of the humoral theory of Buchner. R. Pfeiffer's work was next discussed and the experimental results which had led Pfeiffer to formulate the theory that in "antifectious" sera there were two distinct bodies—one in the immune serum itself possessing only slight inhibitory powers on the growth of the bacteria, but representing, as it were, the forerunner of the active bacteriolytic substances; the other produced in the body of the animal which had received the serum, and analogous or identical with alexin. By a combination of the inactive body with the alexin a specific bacteriolysis was induced. The experiments of Bordet, Ehrlich, and Morgenroth on hæmolysis were then discussed, and the close analogy of hæmolysis and bacteriolysis was emphasised. Dr. Bulloch then proceeded to detail the experiments performed by himself. They consisted in the injection of rabbits with the blood corpuscles of the ox. In the serum of such rabbits a hæmolysin made its appearance as the result of the injection. This hæmolysin was composed of two perfectly distinct substances which could be separated from each other. They were the intermediary or immune-body and the alexin ("addiment" or "complement" of Ehrlich and Morgenroth). By accurately titrating the immunised rabbit's serum he had been able to follow from day to day the course of the immunity and the amount of the hæmolysin. After every injection there was a profound fall in the hæmolytic dose, and this fall (which had been denied by Ehrlich and Morgenroth) was shown to be due to a diminution in the amount of the alexin. By a special method he had been able completely to separate the alexin dose from the immune-body dose, and charts were shown to demonstrate that there was no relation between these two factors. Further, the immune-body dose of the serum was found to be extraordinarily small (in one case $\frac{1}{12\cdot5}$ of a cubic centimetre accompanied by 0·2 cubic centimetre, which was the hæmolytic dose, of the serum by itself). By thus separating the two factors of the hæmolysis their relation to leucocytes could be easily demonstrated. Artificial leucocytosis was found to increase the amount of alexin without influencing the amount of the immune-body in the slightest degree. A complete chart was also shown exhibiting the minute changes during the first days of the immunisation against blood corpuscles. The relation of the experiments to bacteriolysis, and especially to R. Pfeiffer's work, was emphasised and the connexion with practical bacterio-therapeutics was pointed out. In order to ascertain what cells contained the alexin Dr. Bulloch produced artificial leucocytosis by sodium cinnamate, the white corpuscles going up from 10,000 to 28,000 per cubic millimetre. This had no influence on the immune-body, but the amount of alexin went up at once. The kind of animals used in experimentation was of great importance, for different animals differed enormously in their hæmolytic and bactericidal properties and in the elaboration

of the two substances referred to. The cause of congenital immunity was certainly connected with this question of alexin. He had attempted to produce an anti-complemental serum, but rabbits and guinea-pigs were not suitable animals for its manufacture.

Professor A. E. WRIGHT communicated the results of an Investigation into the Bactericidal Action of the Blood, undertaken by Major W. B. Leishman, R.A.M.C., and himself. Professor Wright congratulated Dr. Bulloch on his survey of the recent work which had been done on the subject of immunity. He was not quite sure, however, that what was true of blood corpuscles held good as regards bacteria. It might be so, but it was a question which wanted to be investigated. He then described the technique which he had employed to test the bactericidal power of the blood. They had to work with extremely small quantities of blood. All the work that had been done hitherto had been qualitative only, but here the result aimed at a quantitative measure of the bactericidal power of blood under certain conditions. By the methods employed, which he described, almost absolute accuracy was obtained and the bactericidal power of the blood could be expressed quantitatively by the number of bacteria which could be killed by a definite quantity of blood. In normal conditions the bactericidal power of a person's blood varied very little from day to day. He had measured his own blood with typhoid bacilli and found it very constant. Experiments were made with various microbes. On staphylococci the blood had practically no effect and on streptococci it had not much more. On plague bacilli the blood had no bactericidal power. With typhoid and cholera bacilli the blood was very powerful. One cubic centimetre of blood would kill about 10,000,000 cholera bacilli, and after a dilution of about 20 the blood would still be able to kill off typhoid bacilli. Rabbit's blood had also been experimented with; this had enormous bactericidal power for cholera. A patient was referred to who had had for many years a constant succession of boils. He was inoculated with staphylococcus cultures. It was found that the inhibitory power of his blood on staphylococci was increased and he remained free from boils for three months. After inoculation there were three days during which the bactericidal power of the blood was diminished. After that time it went up. In conclusion, he (Professor Wright) thought that Dr. Bulloch had assumed too much in certain directions, but that his researches on hæmolysis were of great value.

Mr. W. C. O. PAKES remarked that it was a well-known fact, and one which he had often observed, that in an animal which had been inoculated with bacteria and after a lapse of time killed all attempts to regain the bacterium failed. Perhaps Professor Wright's experiments might throw some light on the explanation of this.

Dr. GEORGE DEAN complimented Dr. Bulloch on his communication. He (Dr. Dean) had taken great interest in the subject of hæmolysis and had performed several experiments confirmatory of the results of others. The alexin of diphtheria reached a high degree of immunity in certain animals. He had found that fresh serum added nothing to an immunised horse. The injection of certain kinds of serum which destroyed the hæmolytic power of the blood only destroyed it for a few minutes and it was regained in a few hours. This and other facts went to show that they could not always draw inferences from the hæmolytic to the bactericidal power of blood.

Dr. BULLOCH, in replying, remarked that a good deal of the older literature on the bactericidal power of blood would require to be revised, for the older methods were too coarse. The methods proposed by Professor Wright offered great promise of accuracy.

Dr. A. RUFFER (Cairo) exhibited Photographs of Kidneys and Ureters showing polypoid outgrowths due to the bilharzia hæmatobia.

CHELSEA CLINICAL SOCIETY.

Discussion on the Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Rheumatism.

THE annual clinical debate of this society was held at the Jenner Institute of Preventive Medicine on March 12th, Dr. WILLIAM EWART, the President, being in the chair. The debate was opened by the reading of a paper by Dr. ARCHIBALD E. GARROD, which was printed in THE LANCET of March 16th, p. 774.

Dr. F. J. POYNTON then delivered a joint communication by himself and Dr. ALEXANDER PAINE dealing with the infectivity of acute rheumatism with especial reference to the chronic types of the disease. They considered that the mean result of many years of experience had established acute rheumatism as a definite disease with definite peculiarities, and if that were granted it followed that if one micro-organism was constantly found to be present which when isolated produced identical lesions in animals then it was most probable that that organism was specific. In their experience acute rheumatism was probably the result of infection by one micro-organism. They held that pericarditis, pleurisy, and nodules were manifestations of the rheumatic affection and not superadded phenomena, so that to regard polyarthritis as the criterion of rheumatic fever and the other affections as complications was not in accord with present knowledge. Though salicylates were of great value in some cases of acute rheumatism there was no justification to consider them as tests of the rheumatic nature of the disease. The subsidence of the rheumatic process under the use of salicylates must have some meaning, but in their opinion a phase of rheumatism could not be claimed as a distinct disease. They thought that they had considerably weakened the position of those who considered acute virulent rheumatism as due to a mixed infection because organisms were not found in the simpler arthritic type by having demonstrated that the organisms in acute rheumatism were rapidly destroyed at the sites of the lesions and were therefore not easy to demonstrate in the tissues. They had isolated from 14 cases of rheumatic fever a diplococcus which grew in liquid media in streptococcal chains and on solid media in staphylococcal masses. Triboulet before, and Wasserman and Malkoff during the time they were working had also isolated a diplococcus from acute rheumatism. During the present year Fritz Meyer had published the results of a prolonged investigation of the bacteriology of rheumatic angina and had also isolated a diplococcus which in many respects, and especially in the experimental results which it produced, resembled the one they had described and with which they had obtained similar results. Their researches had been more detailed than those of others, and though different media had been used by various workers it seemed very probable that the organism in each case was the same. Though Meyer used a medium of high alkalescence and they used a faintly acid medium, in both instances the organisms grew well on blood agar which was only faintly alkaline. They had isolated the organism three times from the blood of patients suffering from rheumatic pericarditis, twice from the throat, four times from the pericardium, growing them also in the exudations, twice from the urine, three times from the cardiac valves, and once from the rheumatic nodule. The anatomy of the lesions they had produced in the rabbit was identical with that of those in man. For the inoculations all the cases that were chosen were undoubted cases of rheumatic fever and not a shadow of doubt as to their nature entered the minds of the physicians, who were Dr. W. B. Cheadle, Dr. D. B. Lees, Dr. F. G. Penrose, and Dr. A. E. Garrod. They had therefore concluded that the organism was a cause of rheumatic fever, for if they stripped that disease of valvulitis, polyarthritis, pericarditis, pleurisy, nodules, and chorea it was difficult to believe in its existence as there was then only left the constitutional tendency and not the disease itself. Though more researches were needed to prove the point they further believed that the organism was the only cause. If their observations were corroborated the pathology of rheumatic fever was in a firmer position than heretofore, and when once the toxins could be isolated they would be in a position to approach the explanation of the various lesions, both acute and chronic, with more confidence than they could at the present time. They had repeatedly demonstrated the diplococcus in the joint exudate in rabbits and had also found them in the joints in rheumatism. The organisms were rapidly taken up by endothelial cells and polynuclear leucocytes in those situations, and possibly this might account for the difficulty of demonstrating them in acute rheumatic arthritis, which was usually of less severe type than that produced experimentally in the rabbit. The presence of the organisms in that form of arthritis brought acute rheumatic affections of

joints into line with arthritis the result of septic gonorrhœal and pneumococcic infections. According to the researches of Dr. G. A. Bannatyne, Dr. A. S. Wohlmann, and Dr. F. R. Blaxall rheumatoid arthritis must be included in that group also. Gouty and syphilitic arthritis remained as examples in which no micro-organism had been demonstrated, the former perhaps not being the result of a microbic infection, the latter almost certainly being micro-organic. Another point to which they wished to call attention was the condition of the kidneys in acute rheumatism. In fatal cases they had found very definite changes in the parenchyma, especially of the convoluted tubules. There were marked cloudy swelling of the protoplasm of the renal cells and some desquamation. The change was diffuse, affecting a great number of the convoluted tubules. Further, they had isolated the diplococcus from the urine in acute rheumatic pericarditis. In rabbits, possibly because of their fur, the kidneys were more severely affected, but the changes were of the same type. There were much cloudy swelling and also some desquamation of the renal cells, and in their kidneys they had repeatedly demonstrated the micro-organisms. In the rabbit they had traced this condition step by step to the formation of a white infarct, which certainly in the rabbit and most probably in man was not the result of a gross embolism, but was the result of the invasion of a considerable number of the diplococci in the particular area, and as a result the cloudy swelling in that area passed over the limit to the stage of necrosis which accounted for the white appearance of the infarct. It appeared to them that the kidney was an important site for the elimination of the poisons produced by the rheumatic infection and that in that process the kidney itself to some extent suffered. Usually, the injury was not gross, for though albuminuria, and in some malignant cases hæmaturia and nephritis, occurred in this disease, as a rule there was not albuminuria or evidence of serious renal inflammation. When a white infarct healed they knew the result was a scar, and it was possible that repeated attacks of acute rheumatism might do permanent damage to the renal tubules, not of the gross nature found in the infarct, but of a grade sufficient in severity to destroy the functions of many tubules, leading perhaps to the gradual destruction of the renal cells and their replacement by fibrous tissue. Repeated attacks of acute rheumatism in the young might lead to fibrosis of the kidney in the adult or, short of that, might impair the kidney's function for the elimination of the rheumatic poison in later life. As a result of this it might be that a subsequent attack of rheumatism in adult life, though less severe because the adult was less susceptible, was more chronic, because the poisons were eliminated with more difficulty. When they considered gout they knew that the kidneys suffered much in that disease and that some authorities gave to the kidneys first place in its causation and all allowed that the impairment of their function was a prominent factor in the more chronic inveterate and cachectic type. For those reasons it seemed to them important to study the kidneys very closely in acute rheumatism, and perhaps it might be found that albuminuria was more frequent than was generally supposed or that the peculiar condition of cyclical albuminuria might sometimes be a result of the impairment rather than destruction of function that appeared to be the result of rheumatic fever. They had collected facts to show that some cases of malignant endocarditis were truly rheumatic and not the result of secondary infections. This suggested that some of those lesions of joints that run on to ulceration and destruction of cartilage were really rheumatic. The disease had altered in type and for some reason had become locally malignant in those situations as it sometimes became in the valves. This, they pointed out, was no new suggestion, but was commented upon in the classical work upon pathology by Wilks and Moxon.

Mr. N. C. MACNAMARA said with reference to the toxic origin of rheumatoid arthritis that it was evident that some of the chemical substances produced by specific micro-organisms led to rapid destruction of tissues, such as was witnessed in pyæmia; others took years to run their course, such as leprosy; and there was a class of cases such as those known as "gonorrhœal rheumatism" which in point of time ran an intermediate course. There could be no question as to the toxic nature of this last form of disease, or as to the fact that the gonococci were present in the structures implicated in cases of gonorrhœal arthritis, which was an affection not far removed from chronic rheumatoid arthritis. Dr. Todd had many years ago dwelt on the connexion that existed between certain instances of chronic arthritis and leucorrhœa. He believed that the absorption of unhealthy secretions from the uterus led to symptoms of rheumatism, and ultimately to the ankylosed and deformed joints characteristic of chronic rheumatoid arthritis. In the year 1885 Mr. Macnamara met with a case in which a woman, 25 years of age, presented typically deformed and fixed joints, which he, like Dr. Todd, attributed to the absorption of septic matter, not from the uterus, but from the sockets of teeth extensively affected with dental caries. From that time onwards he had watched cases in which the only curative treatment for symptoms of chronic rheumatoid arthritis that could be relied on was the removal of the cause of septic infection. He fully recognised the fact that the symptoms and pathological changes characteristic of this form of arthritis were attributable in some cases to rheumatism, in others to gout, or it may be to a neurosis, but some of these cases unquestionably depended on toxic poisoning, and any form of rational treatment must be based on the appreciation of the origin of the disease with the object of its removal and of overcoming its deleterious influence.

Dr. C. O. HAWTHORNE, in discussing the relation of acute rheumatism to chronic rheumatoid arthritis, said they were all agreed in calling the acute disease characterised by general febrile disturbance and pain and swelling affecting several or many joints "acute rheumatism." They were all further agreed that subacute rheumatism was possibly of essentially the same nature as the condition called "rheumatic fever." It was admitted that there was a condition, chronic in its course for the most part, marked by swelling and deformity in many joints, usually called "chronic rheumatoid arthritis." To the question, Was chronic rheumatoid arthritis simply a chronic form of the disease known as rheumatic fever or was it an entirely different disease? some authorities said that it was simply rheumatism, others stated that whatever it might prove to be it was certainly not a rheumatic arthritis. There was the theory that chronic rheumatoid arthritis was a disease dependent upon micro-organisms, and there was the theory that the condition was due to septic absorption. Another theory was that the phenomena of rheumatoid arthritis depended upon disturbances in the trophic nervous apparatus, some of these being primary changes in the spinal cord, others being induced in the spinal cord by irritation reflected from the pelvic organs or from some other viscera. A not inconsiderable number of cases of chronic rheumatoid arthritis were found in patients who had at some previous period in their life suffered from rheumatic attacks. There were instances in which the chronic rheumatoid condition followed immediately upon an attack of acute rheumatic fever. If the family histories of these patients were examined there were not infrequently found evidences of rheumatism in members of the family immediately related to the patient. There were certain cases in which the symptoms, the history, and the physical signs and conditions were such that it was impossible to exercise any confident judgment and to say that that was a case of rheumatism and not rheumatoid arthritis. Dr. Hawthorne then proceeded to give in detail the history of a case in point and exhibited photographs illustrating the condition. One of the most confident grounds on which an endeavour had been made to mark a distinction between rheumatism and rheumatoid arthritis was the absence from the latter condition of cardiac disease. Endocarditis, they all recognised, was in the great majority of instances an evidence of rheumatism, but it was an expression of rheumatism which was specially prone to manifest itself in childhood and early adult life. It was by no means a common expression of rheumatism in middle life, but the majority of patients with chronic rheumatoid arthritis were those who were approaching or had reached middle age. Therefore it by no means followed that the absence of cardiac complications from the great majority of cases of rheumatoid arthritis proved that it was a condition quite distinct from rheumatism. Moreover, Charcot had stated that cardiac complications and valvular disease occurred fairly frequently in cases of rheumatoid arthritis. Trousseau had noted the occurrence in "nodular rheumatism," as he termed it, of lesions in the pericardium. For his own part, Dr. Hawthorne had been able to satisfy himself of the evolution of valvular disease during the study of an individual case of rheumatoid arthritis. Quite recently

they were taught that subcutaneous nodules were pathognomonic of rheumatism. Later experience had shown that similar nodules undoubtedly emerged during the progress of a certain number of cases of rheumatoid arthritis. In most instances the nodules of rheumatoid arthritis were larger and more persistent than the typical rheumatic nodule of the child and young adult, but considering the extremely chronic character of the majority of cases of rheumatoid arthritis it was not surprising that nodules when they occurred assumed a more persistent character than the subcutaneous nodules in the comparatively fleeting attacks of rheumatism which came on in childhood and early adult life. It seemed to him that it was a very suggestive fact that they observed nodules in rheumatoid arthritis essentially similar to those which were claimed as distinctive of rheumatism. He did not, however, wish to press the point too far because it had been shown that similar nodules also appeared in gout and in various other conditions. Still, he put it to them as a subject which was worthy of careful consideration. In regard to the development of muscular atrophies in chronic rheumatoid arthritis it seemed at first sight to savour of strong presumptive proof of the accuracy of the teaching that the phenomena of rheumatoid arthritis depended upon changes in the central nervous system. It was recognised that changes in the central nervous system and diseases of the spinal cord might produce muscular atrophies and it was known also that certain lesions in the cord were competent to produce severe articular disturbances, hence it was not unnatural to argue from the development of muscular atrophy that all the phenomena of the disease depended upon trophic nervous change. It had, however, been taught by Sir James Paget many years ago, and his teaching had not been seriously disputed, that any joint lesion might be followed by atrophy affecting the muscles which acted upon that joint. The joint lesion might be very slight, but the atrophy which followed might be very considerable. The atrophy was certainly not due to disease, for it was too rapid to be thus account for, and, further, it selected certain groups of muscles and neglected others, so that there was no issue upon the question of disease. The suggestion was that the joint lesion through the afferent nerves led to trophic disturbances in the spinal centres and the disturbances so produced were prejudicial to the nutrition of the muscle. No one was prepared to argue that in a case of a sprain the whole phenomena, including atrophy, depended upon trophic nervous disturbances, and it therefore followed that muscular atrophy in cases of chronic rheumatoid arthritis was no proof at all that the regular changes of marked rheumatoid arthritis depended upon central changes in the spinal cord. He was loth to commit himself to the definite opinion that chronic rheumatoid arthritis was due to changes in the trophic nervous apparatus, but he was not prepared to go so far as to say that he held very strongly that rheumatoid arthritis was certainly rheumatism. He did not think the charge of halting between two opinions was a serious one, for, although the cross-bench type of man was not popular amongst politicians, it could hardly be urged as a reproach in medical circles where so little was known and so much was vague and uncertain.

The meeting then adjourned to Tuesday, March 19th.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Notification of Tuberculosis.—Meat-supply.

A MEETING of this section was held on Feb. 15th, Sir C. A. CAMERON, the President, being in the chair.

The PRESIDENT read a paper on the Compulsory Notification of Tuberculosis in which he said that the contagious nature of tuberculosis of the lungs was now universally admitted. In December, 1900, the Public Health Committee recommended the Corporation of Dublin to add tuberculosis of the lungs to the schedule of notifiable diseases. After a debate the further consideration of the proposal was adjourned for six months in order that more information on the subject should be obtained by the Public Health Committee and submitted to the corporation. The Local Government Board for England had received from several authorities applications for permission to make tuberculosis compulsorily notifiable but the Board had not given the required sanction. It was unlikely that the Irish Local Government Board would have acted differently had the Dublin Corporation adopted the report of the Public Health Committee recommending compulsory notification. Voluntary notification of tuberculosis existed in several English towns and payment was made for the notifications. There was no available fund in Dublin, or probably in any other Irish town, for such a purpose. Many English and Scotch towns had funds which enabled payment to be made for voluntary notification, whilst the Dublin Sanitary Authority could only pay for compulsory notifications. It was with this inability in view that the Public Health Committee recommended compulsory notification as the only kind that could be paid for. As to the desirability of making phthisis notifiable opinion seemed to be divided. It had lately been made compulsorily notifiable by the Norwegian Legislature. In some of the United States it was notifiable; for example, in Michigan and New York. The principal objection to notification was the difficulty in determining the proper time to notify. He thought that cases should not be notified unless the physical signs of phthisis were unmistakeably present or unless the bacilli of tubercle had been detected.

Dr. HENRY O'NEILL of Belfast read a paper entitled "Our Meat-supply and How it may be Improved." Meat inspection in Belfast was conducted under the control of the Market Committee of the county borough by the inspector of meat and provisions. The staff consisted of one superintendent of the public abattoir and three practical meat inspectors. After inspection the meat was stamped, and the public were recommended when purchasing meat from a butcher to see that it was marked with the stamp. Belfast was probably the first city in the United Kingdom to adopt a scientific method of meat inspection. It was well known that large quantities of diseased meat were sold for human food. Much diseased meat was taken to manufactories where various kinds of minced meats were made, such as German sausages, pork or meat pies, brawn and other delicacies, highly seasoned to cover any imperfections in quality. Dr. O'Neill then enumerated several of the diseases of domestic animals which made their flesh unfit for food, and he described some of the frauds practised by butchers, such as the dressing of carcasses to represent the flesh of totally different animals. At Leadenhall Market a hamper was found containing unborn lambs, dressed like Ostend rabbits. A retriever dog was killed and dressed as lamb; the owner was convicted and got three months' imprisonment. At the Central Meat Market, London, parts of a donkey were dressed and exposed for sale as deer. In Paris all meat was inspected, whether killed at home or foreign, and when the meat was found to be sound it was stamped with a stamp bearing the signature "P.P.," which meant Prefecture of Police. In Berlin all cattle to be offered for sale in the city had to be brought to the public abattoir, and the slaughtering of cattle anywhere else within the municipal boundary was absolutely forbidden. No butcher in Berlin might offer meat for human food which did not bear the official stamp of the inspecting department of the central market.

SECTION OF PATHOLOGY.

Stenosis of the Cardiac Orifices.

A meeting of this section was held on Feb. 22nd, Dr. A. C. O'SULLIVAN, the President, being in the chair.

Sir GEORGE DUFFEY exhibited a remarkable specimen of Stenosis of the Tricuspid, Mitral, and Aortic Orifices obtained from a man of fine physique, aged 33 years. As a boy he was in the Royal Hibernian Military School and from the records of that institution, furnished by the medical attendant, Lieutenant-Colonel Whittaker, A.M.S. (retired), there was evidence of his having had acute rheumatism, followed by valvular disease of the heart, before he was 13 years of age. He was under treatment at the Royal City of Dublin Hospital on different occasions during the last two years for heart disease, the most prominent symptom being ascites, for which he was repeatedly tapped, altogether 40 times. In the intervals between the tappings he was able to follow his occupation as a porter in a wine store. He drank heavily. On Jan. 8th, 1901, he was admitted to hospital suffering from extreme dyspnœa, cough, ascites, and œdema of the legs. He was much cyanosed. The pulse was feeble, irregular, and intermittent. The heart was

enlarged; its impulse was diffused and weak. He died on Feb. 4th. At the necropsy the heart was found to be greatly enlarged; it was somewhat square in shape and weighed 25 ounces. The pericardium was thickened and universally and closely adherent. The girth of the heart was 14½ inches and from the commencement of the aorta to the apex it measured eight inches. The right auricle was dilated. Its cavity measured four inches vertically by three and a half inches transversely and its walls were hypertrophied. The tricuspid orifice was extremely contracted. It admitted the middle finger only. The valves were thickened and fused together by their free margins in the form of a funnel which projected into the ventricle. The opening of the funnel was oval-shaped, measuring three-quarters by five-sixteenths of an inch. The right curtain of the valve was adherent to the septum. The walls of the right ventricle were hypertrophied and the endocardium over some of the columnæ carneæ especially was thickened. The pulmonary artery and valves were normal. The walls of the left ventricle were much hypertrophied, being eleven-sixteenths of an inch in thickness. The mitral valves were thickened, atheromatous, and contracted, forming a slit-like opening, smaller than the stenosed tricuspid and admitting the tip of the index finger only. The aortic valves were competent, but much thickened and calcified, and the orifice was so much contracted that it only admitted a No. 10 catheter. The left auricle was dilated; its lining membrane was thickened and atheromatous. The arch of the aorta was atheromatous. The liver and spleen were both enlarged and hard, and the capsule of each was thickened and adherent. Their weights were 3 lb. 8 oz. and nine ounces respectively. The pancreas was hypertrophied and hard. Both kidneys weighed together eight ounces and were congested.

CAMBRIDGE MEDICAL SOCIETY.—A meeting of this society was held on March 1st.—Dr. J. S. Hinnell showed a specimen of Sarcoma of the Choroid. The patient was a man, 53 years old, who, in September, 1898, complained of failing vision, specially towards his right side. The left eye was normal except for a little hypertropia. In the right eye vision was = $\frac{4}{10}$ and less than J.20. To external examination the eye showed nothing abnormal, but the ophthalmoscope revealed a considerable detachment of the retina inwards and upwards, with a sharp firmly defined edge crossing the circular red reflex from above downwards and inwards. The detachment was very dark, did not move with the movements of the globe, and showed no folds. On closer examination there were seen on the summit of the detachment some dark hæmorrhages and irregular whitish patches. The detachment shelved off from its summit gradually in the downward, inward, and upward directions, but towards the temporal side it was precipitous, with a firm dark edge, which overhung its base on that side and just hid the optic disc. There were two small retinal hæmorrhages. The detachment was from four to five millimetres deep. The eye was excised and sent to Mr. C. D. Marshall, the curator of the Moorfields Museum, who reported that it contained a sarcoma of the choroid and that the optic nerve was apparently not involved. The interesting features of the case seemed to be that in spite of the absence of such signs of intra-ocular growth as increased tension or enlarged episcleral vessels, yet the character of the detachment was so unusual as to create suspicion at once. For there were no whitish or grey reflex, no folds of the retina, and no flapping of the detachment; above all, the causes of an innocent detachment were absent, there were no myopia, no cyclitis, no hyalitis, no choroiditis, and no history of injury. The patient was last seen in April, 1899, when he seemed to be quite well.—Dr. Hinnell also showed a boy, eight years old, having a Foreign Body on the Iris. In May, 1897, he was struck in the left eye apparently with a stone. Seven days after the accident the left eye was nearly quiet, but flushed on exposure to bright light. The cornea was clear except for a minute opacity close to its centre. The aqueous was clear and the anterior chamber was normal. The iris acted well to light, there were no synechia and no iritis. On the pupillary edge of the iris was a minute foreign body not larger than a small pin's head and not unlike a piece of stone. The lens and the vitreous were clear. The minute foreign body had obviously pierced the cornea and become imbedded in the iris. The case was watched and in a few days the eye was quite quiet and apparently none the worse for the accident. There had been no attacks of inflammation nor any trouble with the eye since. Vision had not been affected. The foreign body was in the same place now (February, 1901) and the scar in the cornea could still be seen by careful examination.—Dr. Griffith exhibited (1) a specimen of Proliferating Papilloma involving both Ovaries which he had successfully removed from a young woman; (2) a boy, 11 years of age, from whom the Astragalus was Removed for Severe Talipes Equino-varus of the Left Foot; and (3) a woman who 18 months previously had the Left Breast and Axillary Glands Removed for Carcinoma and who two and a half weeks ago had a secondary growth, together with the breast, removed from the right side, but there had been no recurrence on the left side.—Dr. Boxall read a paper on the Dangers of Incomplete Abortion, in which he related a series of 18 cases seen mainly in consultation; in all of them abortion or miscarriage had taken place, but the uterus had been incompletely evacuated. One of these cases proved fatal from acute septicæmia, all the others recovered. He recommended that in such cases the uterus should be thoroughly emptied. Incomplete removal of the uterine contents was dangerous and futile, and operative interference was, in his opinion, likely to result in more harm than good unless the retained products were completely removed. For this reason curetting was often necessary. Douching the uterus with a strongly antiseptic solution was also frequently called for. But both measures required care in use—curetting that the uterine wall itself be not damaged, and the douching to prevent injurious absorption of the poisonous antiseptic used in the solution. After douching freely with a strong antiseptic solution—such, for instance, as 1 in 2000 sublimate—he was in the habit of adding water sterilised by boiling to the douche before the douche-apparatus was completely emptied, so that at last little more than sterilised water passed into the uterus and any excess of antiseptic was washed away. He had never found a blunt curette of the smallest use in cases where with the finger it was impossible to bring away the retained and adherent products. He thought it advantageous to use a fair-sized stirrup-shaped curette in preference to a mere bow, as at each scraping it denuded a larger surface and shortened the operation considerably when an extensive curetting was requisite. Hæmorrhage of a serious extent rarely occurred in the course of the operation, and all bleeding was as a rule controlled immediately by using the douche at 115° F. As a rule he made no direct chemical application to the denuded surface, regarding it as unnecessary when the douching had been efficiently performed, nor did he pack the uterus when decomposition had occurred, thinking it better in such cases to maintain free drainage through the cervix.

LIVERPOOL MEDICAL INSTITUTION.—The eleventh ordinary meeting of the session was held on Feb. 28th, Mr. Edgar A. Browne, the President, being in the chair.—Mr. Richard Williams reported two cases of the Removal of a Piece of Steel from the Vitreous by Means of Haab's Magnet. In the first case the metal had been in the eye for over four months. Cataract had been produced, but apparently the eye was otherwise sound. In the second case the foreign body had remained in the eye for over seven months and the eye had lost its vision from the first. A small incision was made in the cornea and when the magnet was applied the piece of steel shot out with great force and adhered to the point of the magnet.—Mr. Charles Shears was impressed with the value of Haab's magnet and considered that many eyes would be saved by its use. He referred to a case, however, in which the magnet had failed. The injury was a fortnight old, the cornea, the iris, and the lens were wounded and severe inflammatory reaction had occurred. The x rays demonstrated the presence of a piece of metal about the centre of the eyeball and Haab's magnet, which was used on three occasions, failed. Later the eyeball, being inflamed and softening, was removed. On opening the globe a small piece of steel was found firmly embedded in the abscess cavity between the back of the iris and the lens. Possibly the severe inflammatory reaction and inclosure of the foreign body which closely followed the injury was the reason why the magnet failed to draw the steel forwards.—Dr. W. Blair Bell related the case of a man, aged 65 years, who had used a Twig from an Elm Tree as a Bougie, a piece of which, two and a half inches long and as thick as a No. 12

catheter, had broken off in the bladder and was removed a week later by suprapubic cystotomy, the patient making a rapid recovery.—Dr. Blair Bell also related a case of Acute Primary Miliary Tuberculous Peritonitis in which a perfect recovery was made after laparotomy. He had performed the operation nearly a year ago. He advocated laparotomy in all such cases because (1) this was the only safe and effectual way of evacuating encysted fluid; (2) it produced the vaso-motor shock (? dilatation) which he thought was responsible for the cure; (3) the condition of the Fallopian tubes could be investigated in women; (4) all adhesions could be broken down; and (5) the mortality after laparotomy was less than that after medical treatment.—Dr. T. R. Glynn referred to a case of tuberculous peritonitis with effusion where recovery followed the spontaneous discharge of the ascitic fluid through ulceration in the neighbourhood of the umbilicus. He had also seen cases of recovery in the same condition after paracentesis. While his experience led him to recognise the value of laparotomy in tuberculous peritonitis he thought that in the cases complicated with effusion tapping and evacuation of ascitic fluid might be resorted to with advantage before the graver operation.—Dr. W. Alexander remarked that many of these cases were not strictly tuberculous, no tubercle bacilli being found; it was surprising how easily such cases were often cured by draining and yet how difficult it was to treat cutaneous tubercle even by most heroic measures.—Mr. W. Thelwall Thomas mentioned a case of tuberculous peritonitis operated upon seven years ago, the boy now being in perfect health. He had removed a portion of the thickened peritoneum for microscopical purposes and sections exhibited miliary tubercle. He urged the importance of thus verifying the diagnosis and not trusting to naked-eye pathology.—Dr. T. B. Grimsdale remarked upon the apparently acute onset of tuberculous peritonitis. It was certain that tubercle could be present in the peritoneum without causing symptoms. The disease remained "latent" until some cause lighted it up and produced what appeared to be an acute onset. He thought that the removal of the fluid had a great effect in curing the disease and related a case in support of this view.—Dr. C. J. Macalister considered that statistics were required showing the results of surgical treatment of tuberculous peritonitis, both favourable and unfavourable; in his experience the prognosis was not bad in a number of cases treated by medical means. He cited the case of a child who had wasted greatly but had ultimately recovered on being sent to the country. He considered discrimination necessary in the selection of cases for operation; those cases in which large tuberculous masses were present were unfavourable for surgical treatment. —Dr. H. Briggs, Dr. E. T. Davies, Mr. G. A. Hawkins-Ambler, and Mr. Rushton Parker discussed the case and Dr. Bell replied.—Dr. Arthur Evans read a very interesting paper entitled, "With the Imperial Yeomanry Field Hospital in South Africa." The particular hospital was that associated with the name of the Countess Howe. Dr. Evans illustrated his paper by means of lantern slides from photographs taken during the various marches of the hospital which had done excellent work, had never been more than two weeks in any one place, and starting from Cape Town had gone through Bloemfontein to Pretoria, which place they had gone from and re-entered five times, after seeing service in various districts. Dr. Evans remarked upon 100 cases of gunshot wounds treated in the field.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on March 6th, Dr. W. Milligan, Vice-President, being in the chair.—Dr. J. Howson Ray showed a case of Pyonephrosis treated by Drainage and Abdominal Nephrectomy. The patient, a man, aged 24 years, received an injury to the right loin in February, 1900, having previously enjoyed good health. Four months later he noticed a swelling in the right loin and was admitted to hospital under the care of Dr. Dixon Mann. The swelling subsided with rest in bed and he left the hospital in three weeks' time. A fortnight later he was readmitted with a return of the swelling and this soon filled up the right loin, the hypogastrium, and the left iliac fossa. On August 15th Dr. Ray operated through the right linea semilunaris, excluded the peritoneal cavity, and on incising the kidney drew off 161 ounces of pus and water. The left kidney was apparently normal. On Nov. 29th Dr. Ray enucleated the kidney through the right semilunar line without opening the peritoneal cavity. The ureter was found to be kinked about its junction with the renal pelvis. The patient made a good recovery, the left kidney acting well. The excised right kidney was shown and proved to be a case of traumatic hydronephrosis with secondary infection.—Dr. Dixon Mann also made some remarks upon the case.—Dr. F. J. H. Coutts (for Professor S. Delépine) demonstrated the Widal Reaction for the Diagnosis of Typhoid Fever.—Dr. R. W. Marsden opened a discussion on the Diagnosis and Treatment of Typhoid Fever. He considered that a definite conclusion could be arrived at either from the history and clinical manifestations of the attack or from the use of specific tests. Separation of the bacilli from the stools, &c., being impracticable and tapping of the spleen unjustifiable reliance must be placed on the Widal reaction. The difficulties in connexion with the serum test were next dealt with. Dr. Marsden then mentioned the diagnosis of cases in which indefiniteness of the symptoms or their special localisation caused the difficulty and in both of these the greatest value was attached to the Widal reaction or in some of the latter group to the necessity of a bacteriological examination. Proceeding next to the treatment of typhoid fever the discussion was limited to (1) diet; (2) hydrotherapy; and (3) surgical interference. Dr. Marsden favoured the earlier administration of solid food in certain cases and on a definite plan, whilst whenever possible he laid great stress on the importance of a regular system of tepid baths from 75° to 85° F. The necessity for more accurate and earlier diagnosis of the various abdominal complications was then insisted on in order to allow of an operation being attempted with greater chance of success, since if so-called pathognomonic signs of peritonitis, &c., were waited for the time for intervention would often have gone by.—The following members took part in the discussion: Professor Delépine, Dr. J. Dreschfeld, Dr. Dixon Mann, Dr. J. Niven, Dr. E. S. Reynolds, Dr. Coutts, Dr. Moore, and Dr. McDougall.—Professor Delépine drew attention to the Dangers Attending the Use of Methods of Higher Dilution in performing the Serum Reaction which allowed the action of gravity to take part in the process. Professor Delépine among other remarks stated that the value of Widal's test should be estimated by comparing the results obtained between the seventh and fourteenth day of the fever by the test and by ordinary clinical methods respectively, the criterion being the subsequent course or termination of the cases. He had found that under those conditions the test had given reliable information in from 97 to 98 per cent. of the cases, and in some series in 99 per cent. Some suggestions as to the best method to be used had been made by Dr. Marsden who unfortunately had not based his remarks on his own personal experience. Over 6000 cases had been tested in Professor Delépine's laboratory since July, 1896, the method adopted by him having been adhered to from the first. He had found on the basis of numerous comparative experiments that if care was taken to prevent the bacilli running together as easily as they did in tubes, pipettes, or hanging drops (*Medical Chronicle*, March, 1897), it was simpler to use a uniform dilution of 1 in 10, and to estimate the degree of the reaction by its rapidity and completeness than to have recourse to dilution, which did not increase the accuracy of the reaction. With regard to the absence of reaction in a few typical cases of typhoid fever Professor Delépine had on previous occasions shown that this was observed chiefly in cases of typhæmia where the invasion of the blood by typhoid bacilli indicated an absence of reaction on the part of the tissues. In such cases the examination of the blood for bacilli could be resorted to with advantage.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 28th, Dr. E. Wearne Clarke, the President, being in the chair.—Dr. W. S. Porter showed a case of Diffuse Scleroderma. The patient was a woman, aged 39 years. There was a history of enlargement of the thyroid when she was about 18 years of age; also a history of head injury and unconsciousness lasting several hours at the age of 24 years and of liability to headaches ever since. She had been married for 14 years and had had nine miscarriages, all under three months, and one child subsequently which had lived. The scleroderma came on quite suddenly six months ago with a nervous attack in which the patient had twitching and was unconscious for three hours. The following day both the hands and the forearms and the right leg were considerably swollen and the swelling of the upper extremities had persisted ever since. A second seizure, similar in character,

but shorter in duration, occurred three months ago. Since then she had lost nearly two stones in weight and had become progressively weaker. When admitted into the Sheffield Royal Infirmary a fortnight before the hands and forearms were typically hard, pale, and waxy-looking and glossy, and hardly any movement was possible in the joints of the wrists and fingers, the hands being claw-like from the flexion of the first phalangeal joints. There were also large areas of leathery skin over the front of the thorax and abdomen, neck, and cheeks and in the lower extremities. The mouth was then drawn and widened to some extent by rigidity, altering the facial expression, and there was some difficulty in protruding the tongue and in the movements of mastication. The forehead and eyelids were fairly mobile. There appeared to be almost complete atrophy of the thyroid. The patient was bright and intelligent and there was no slowness of speech or mental defect. There was no acute pain but chiefly inconvenience from her hide-bound condition and a feeling of exhaustion. The temperature was normal, the pulse was rather quickened, and the heart, the lungs, the kidneys, and the alimentary tract were apparently normal. She had been treated for a fortnight by rest in bed and general friction with oil and warm bathing. Internally only thyroid extract had been given. There had been a very marked improvement generally and locally, and the skin, which had been quite dry for some days after admission, had begun to act with considerable relief to the patient.—Dr. S. White showed a case of "Scissors Legs."—Mr. R. Favell related a case of Cæsarean Section performed for obstruction of labour by a dermoid ovarian tumour. The patient was a primipara, aged 30 years. She had been in labour some hours when the medical man in attendance found a swelling below the presenting part. This he endeavoured to push up out of the pelvis but without success. Mr. Favell saw the patient about six hours after the onset of regular pains the os was then fully dilated; and a semi-solid, doughy tumour was felt in the back of the pelvis below the presenting part. A dermoid tumour of the ovary was diagnosed. The distance between the under surface of the pubes and the tumour was one and a half inches; the child was presenting by the breech. Cæsarean section was performed. After extraction of the child and placenta the tumour was brought out of the pelvis and removed. It was a dermoid cyst containing balls of hair, bones, and sebaceous matter. The uterine wall was sutured in the usual manner. There was very little bleeding. The patient made a good recovery.—Mr. R. J. Pye-Smith showed: 1. A girl, aged 10 years, the subject of Congenital Bilateral Displacement of the Hips. There was but little deformity and the movements of the limbs were almost perfect. A confirmatory skiagraph of the case was also shown. 2. A girl, aged five years, with Congenital Displacement of the Left Hip. A considerable limp was present but the movements of the limb were nearly perfect.—Dr. Porter read a paper on the Certification of the Insane, dwelling principally on the difficulty in dealing with certain forms of incipient insanity, cases of concealed insanity, and alcoholics, in conformity with the requirements of the ordinary lunacy certificate, and suggesting some modifications to meet special cases. He illustrated some of his points by reference to cases which had come under his own observation.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on March 15th at the Belgrave Hospital for Children, Dr. Edmund Cautley being in the chair.—Dr. George Carpenter showed two sisters with many curious Deformities of the Skull, Face, Fingers, &c. There were also developmental heart lesions and ruptures in the abdominal wall. There was no history of maternal impressions.—Mr. Sydney Stephenson pointed out that the eyes were displaced by some developmental fault in the position of the roof of the orbits and that the left cornea of the elder child was imperfectly differentiated from the sclerotic.—Dr. Sutherland and Mr. Clement Lucas also made some remarks.—Dr. William Ewart showed an infant, aged seven months, suffering from Asthma. During the paroxysms all the symptoms of true asthma were present, while during the interval the child was quite comfortable. Gastric disturbance and vomiting were dominant features of the case. Relief was obtained by regulation of the diet and the internal administration of apomorphine and iodide of potassium and hydrochloride of cocaine. Some benefit was also obtained from the application of expiratory pressure to the thorax.—The Chairman agreed that such cases were rare and were sometimes difficult to diagnose from capillary bronchitis.—Dr. Chapman, Dr. Chaffey, Mr. A. H. Tubby, and Dr. Sutherland also discussed the case.—Mr. F. Jaffrey showed, for Mr. T. Clinton Dent, a case of Sub-dural Abscess treated by operation. The patient, a lad, aged 12 years, made a rapid recovery.—Mr. Jaffrey also showed a Tumour occupying nearly the whole of the Sacrum and Coccyx in a girl, aged two years. It had been tapped twice and found to contain dark-coloured fluid not of cerebro-spinal origin.—Mr. Clement Lucas, who doubted whether the tumour had any connexion with the spinal cord and canal, said that the proper treatment would have been early excision.—Mr. Jaffrey, in reply, said he now agreed with Mr. Lucas's view.—Dr. Cautley showed a lad, aged about eight years, who developed left hemiplegia and athetosis after the occurrence of "fits." The probable explanation was a cortical hæmorrhage and thrombosis due to a fit with some persistent local irritation of the nature of sclerosis.—Dr. Cautley also showed two cases of Microcephaly in boys, aged respectively five and four years. Both patients had suffered from head-nodding associated with nystagmus in the elder. He was not prepared to recommend operation.—Dr. Leonard Guthrie, Dr. Turnbull, Dr. Sutherland, and others discussed the cases.—Dr. Henry Ashby (Manchester) read a paper on a case of Congenital Acute Nephritis. An infant was stated to have shown signs of dropsy on the second day after birth and to have vomited and passed but little urine. When examined at four weeks of age there was excessive œdema of the face, trunk, and limbs. The child died in uræmic convulsions. At the post-mortem examination the kidneys were found to be lobulated, and upon section they were pale, resembling the appearance of "the large white kidney." The heart was small and contracted, and the liver and lungs were gorged with dark blood. Microscopically the kidneys showed many greatly dilated convoluted and straight tubes; many blood casts and fibrinous casts were present; the epithelium for the most part was granular; and there were commencing peri-glomular nephritis as well as interstitial changes between the tubules. There was no evidence of syphilis.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY. A meeting of this society was held at the dispensary on March 6th, Dr. C. H. Cattle, Vice-President, being in the chair.—Dr. Cattle read a paper on the Prognosis and Treatment of Epilepsy, with an account of a case complicated by mitral stenosis which had been under his observation for 18 years. The patient was a healthy girl till when about 20 years of age, during the mental strain of a competitive examination, she had her first definite attack of petit mal—short unexpected attacks of unconsciousness. The heart was carefully examined by Dr. Cattle and Dr. W. H. Ransom and was found to be normal. Three months' rest from her duties as head-mistress of a large school and dosing with bromides caused cessation of the fits for a time, but they returned on resumption of her duties. The first major attack occurred three years afterwards at night. One or two months would elapse between the attacks; then two or three would occur in rapid succession. Bromides were taken continuously and she continued her duties as head-mistress for nine years and then married, the attacks thereupon becoming more frequent. A year before this she was under treatment for excessive menstruation and an indistinct apical systolic murmur was noticed. Her anæmic condition then was thought to explain it, but in the course of two or three years its character altered to a loud presystolic rumble with palpable thrill and slapping second sound. The heart's apex was not displaced; the pulse was small and regular. The patient was very liable to bronchial attacks and occasional slight attacks of hæmoptysis. She had never had rheumatism in any form or any disease likely to cause endocarditis and Dr. Cattle could offer no suggestion as to the cause of the heart disease or trace its connexion with the epilepsy, but considered the prognosis very bad owing to the circulatory risks during an attack when respiration was for a short time suspended. As regards treatment Dr. Cattle thought success could only be hoped for when cases were treated at an early stage of the disease by drugs, mental rest, &c.—Mr. A. R. Anderson read notes of nine recent cases of Simple Fracture treated by wiring, five of the patella, two of the

olecranon, one of the tibia and fibula, and one of the femur. In four of the patellar cases the fracture was transverse, in one it was comminuted. In four the separation between the fragments varied from one and a half to two and a half inches, and in all these the lateral expansions of the capsule were badly torn. In the two olecranon cases the process was broken off at its base. No splints were employed in the after-treatment of these cases and passive movements were begun at about the end of 10 days, when the wounds had healed. They all recovered with perfect use of the joint. The fracture of the tibia was a long oblique one four and a half inches in length, and it was found impossible to keep the fragments in position by any means short of operation. The same difficulty existed in the case of fractured femur. The bone was broken rather above the middle of the shaft. At the time of operation an oblique fracture was found with the lower end of the upper fragment thrust through the quadriceps extensor, which effectually prevented reduction. Both these cases made good recoveries without noticeable deformity. In the femoral case there was an inch of shortening.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 15th, Dr. A. G. Barrs, Vice-President, being in the chair.—Mr. A. L. Whitehead read a paper on the Treatment of Glaucoma by Excision of the Superior Cervical Ganglion of the Sympathetic. The paper will be published in THE LANCET shortly.—Dr. James Kerr (Bradford) said that the indications for the operation required defining; it was still purely experimental and probably might be useful in the rare cases of glaucoma which occurred in young adults and went on to blindness.—Mr. Moynihan, Mr. Lawford Knaggs, Dr. S. Long, Dr. J. E. Eddison, and Dr. Barrs also joined in the discussion.—Dr. J. Allan described a case of Tetanus treated by Antitoxin. The patient was an intemperate man, aged 54 years, who had sustained a compound fracture of the right thumb. At first he had no medical treatment. Twelve days later symptoms of tetanus began to develop and the disease was well marked when the antitoxin treatment was commenced on the nineteenth day after the injury. Antitoxin from the Jenner Institute was used and 180 cubic centimetres in all were administered during twelve days. There was marked relief after three days' treatment when 70 cubic centimetres had been given. Every night a draught of half a drachm of chloral hydrate was taken. The injured thumb recovered. The injections were given subcutaneously at various parts of the abdominal wall; no irritation or rash resulted; the case was one of moderate severity.—Dr. E. F. Trevelyan said that he had never seen any real benefit from the antitoxin treatment of tetanus, even including a case in which the antitoxin had been given by the intra-cerebral method.—Dr. A. Wear read a paper on Intra-uterine Fœtal Rigor Mortis. This condition, he said, was somewhat rare. Spiegelberg, in his recent work upon Obstetrics, said in his brief notes upon the condition: "This form of rigidity is undoubtedly extremely rare; indeed, so rare that Schwartz denies its occurrence." Batelsen and Scultze reported cases as early as 1856–57, and later on the continent others were recorded by Haake and Schroeder. Grigg, Boxall, Jones, and Davidson had since reported cases in England. Dr. Wear's patient, a big-boned woman, the mother of 10 children, was easily delivered of a stillborn child in a state of rigor mortis. The colour of the child was bluish and mottled; its limbs were rigid; its arms were semi-flexed at the elbows and the legs at the knees. The fœtus was well developed with no sign of maceration; the rigor mortis was so marked that it was impossible to bend or straighten the limbs. The labour was in this case, if anything, rather precipitate, but in a little woman with a small pelvic inlet the want of adaptation of the fœtus would greatly increase the dystocia. In the recorded cases forceps had generally been employed with success.—Mr. C. J. Wright discussed the paper.—Cases and specimens were shown by Mr. T. R. Jessop, Professor de Burgh Birch, Dr. E. W. Selby (Doncaster), Mr. W. H. Brown, Dr. T. Wardrop Griffith, Mr. E. Ward, Dr. A. L. Whitehead, Mr. P. J. Cammidge, Mr. Lawford Knaggs, Mr. H. Littlewood, Dr. Trevelyan, and Mr. Mayo Robson.

SOCIETY OF ANÆSTHETICS.—A meeting of this society was held on March 1st, Dr. J. F. W. Silk, the President, being in the chair.—Dr. R. J. Probyn-Williams, in conjunction with Mr. Harold Barnard and Dr. R. J. Howard, communicated a paper on a Modified Form of Dr. Schleich's Anæsthetic Mixture. The composition of the mixture employed was that recommended by Dr. Wertheim of Vienna—viz., chloroform one part, petroleum ether one part, and sulphuric ether two parts. It was pointed out that petroleum ether was now included in the appendix of the British Pharmacopœia, where it was stated to have a specific gravity of from 0·670 to 0·700, but that actually used in these observations had a specific gravity of only 0·643. Experiments were first made upon animals and some of the tracings thus obtained were thrown upon the screen. With petroleum ether alone it was very difficult to kill the animal (a cat). The blood-pressure fell slowly but steadily, the heart-beat became more rapid, and the heart-volume increased, owing probably to the rise in the venous pressure. These effects contrasted strongly with those produced when chloroform was inhaled. If the above-mentioned mixture was substituted for the petroleum ether there was hardly any fall in the blood-pressure noticed until the inhalation was pushed to the extreme. In practice a special form of Skinner's frame was used. 34 administrations had been undertaken varying in duration from five to 45 minutes. Induction was easy, free from struggling, and occupied on the average eight minutes. There were no excessive secretion of mucus or saliva and no signs of circulatory failure or cyanosis. The anæsthesia, though sufficient, was light and patients came round rapidly; relaxation was perfect. The pupils reacted as when A.C.E. was used; shallow breathing was not observed so long as the mixture was given sufficiently freely, there were no serious after-effects, and sickness was much the same as in chloroform.—Dr. Dudley Buxton said that he had tried one of Dr. Schleich's mixtures that was practically identical with that used by Dr. Probyn-Williams. On the whole his results were not very satisfactory, and although Dr. Probyn-Williams's paper encouraged one to try again he thought that many more cases would have to be recorded before a definite decision could be arrived at.—In reply to Mr. H. Hilliard, Dr. H. Low, Dr. G. Flux, and the President, Dr. Probyn-Williams said that the amount of the mixture used in each case had not been measured, but it must be given with a very free hand. It was not suited for the Junker's bottle.—Mr. Barnard said he thought that this was a very good example of the advantages of physiological experiments, the substance being tried upon animals before it was used on human beings; he had not specially determined the effects of change of posture.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held at the Guildhall, Windsor, on March 13th, Mr. W. B. Holderness, the President, being in the chair.—Dr. R. Paramore showed (by permission of Dr. Norris) the Intestines from an Infant, aged seven months, who had suffered from intussusception. The patient had been treated successfully by hydrostatic pressure. The intussusception was seen to be completely reduced, but death had occurred 57 hours after the operation from ulceration of the cæcum.—Cases and specimens were also shown by Dr. A. G. Paterson, Dr. E. B. Hulbert, Mr. T. H. Scutt, and Dr. G. E. Hale.—Dr. H. D. Rolleston read a paper on the Uses and Abuses of Arsenic. Arsenic, he said, was a drug that often produced unexpectedly brilliant results—e.g., in preventing a tendency to catching cold and to the recurrence of labial herpes. For morning diarrhœa it often acted like a charm. Its uses as a digestive stimulant were referred to and its mode of action in pernicious anæmia and other blood diseases as well as in chorea was discussed. The question as to how chronic skin diseases were benefited by arsenic was raised. The mode of administration was next considered and stress was laid on the good results obtained by hypodermic use. The cacodylate of soda had at any rate in his experience been somewhat disappointing. In connexion with the effect of the drug on the skin, the production of kerato-is, warts, and in long-standing cases, epithelioma was described. The irregularity with which peripheral neuritis developed was discussed and examples were given, a case of leukæmia being cited in which 105 grains of arseniate of soda were given hypodermically in 271 days without any neuritis following. The influence of other poisons, such as alcohol or those of disease, in accelerating the onset of neuritis was insisted on, and an example from Sir A. Cooper's lectures on arsenical paraplegia was quoted. Failure of the heart from the toxic effects of arsenic was also mentioned. In conclusion, remarks were made on the different action of the iodides and salicylates

on the one hand, which had been known to induce growths like sarcoma, and arsenic on the other hand, which, as already mentioned, in exceptional instances induced epithelioma.—The paper was discussed by Dr. F. Hawkins and Dr. Paterson.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on March 4th, Sir W. B. Dalby, the President, being in the chair.—Mr. Cheatle showed a patient upon whom he had performed the Complete Post-aural Operation. The whole antro-tympanic cavity had become lined by a dry glistening epithelium and he wished to ask how such an epithelial lining differed from the lining membrane of a cholesteatomatous cavity.—Dr. Urban Pritchard said that in the one case the epithelium was derived from skin and in the other from mucous membrane.—Dr. Dundas Grant urged the advisability of leaving the lining membrane of a cholesteatoma in certain cases.—Mr. C. A. Ballance said that in the ordinary form of cholesteatoma there was no lining membrane at all and that the appearance of a membrane was simply due to the flattening from pressure of the cells forming the cholesteatoma. He strongly deprecated leaving any portion of the cholesteatoma behind.—Mr. C. H. Fagge showed a patient with a Closed Meatus and with Facial Paralysis as the result of a Mauser bullet wound and asked whether the meatus should be opened up, considering that the middle-ear appeared to be intact.—Mr. Cheatle, Dr. Law, Dr. Milligan, and others discussed the case.—Dr. Dundas Grant showed some Teaching Diagrams for the Explanation of Weber's and Rinne's Tests.—Mr. R. Lake showed the following specimens: (1) Absence of Tendon of Tensor Tympani; (2) Pigmented Warty Growth from the Auricle of a Female, aged 50 years; and (3) Caries Necrotica of the Outer Antral Wall from a Child, aged four years.—Dr. StClair Thomson showed a Foreign Body which had remained innocuously in the Meatus for 26 years.—Dr. Macnaughton Jones referred to a case where a grain of shot had remained in the ear for 17 years.—Dr. Pritchard referred to a case where a cherry-stone had been in the ear for 50 years.—Dr. H. Jones read the notes of a case of Temporo-sphenoidal Abscess in which operation had been followed by recovery and showed a Specimen and Microscopical Sections from a child, aged two years, who died in convulsions 24 hours after the ordinary mastoid operation.—The cases were discussed by Mr. Cheatle, Mr. Lake, and Dr. Milligan.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on March 8th, Dr. Cresswell Baber, the President, being in the chair.—Sir Felix Semon showed a case of Malignant Disease of the Larynx treated by Thyrotomy and removal of the diseased area, shown seven months after the operation, occurring in a man, aged 47 years. The patient was in excellent health and there was no sign of any local recurrences.—Mr. Betham Robinson showed a specimen of Retention Cysts of the Lymphoid Follicles of the Vallecula. He also showed a case of Chronic Laryngitis, two cases of recent Perforations of the Septum Nasi, and a case of Tumour of the Base of the Tongue. In the last-named case the diagnosis lay between syphilis and sarcoma.—Dr. de Havilland Hall showed a man, aged 26 years, with the left vocal cord in the cadaveric position, paralysis of the parts supplied by the right seventh nerve, palsy of the right genio-hyo-glossus and of the left half of the palate. Dr. Hall thought that the symptoms were due to a disseminated polio-encephalitis.—Dr. L. H. Pegler showed a case of Exaggerated Deflection of the Septum Nasi and one of Advanced Malignant Disease of the Larynx.—Dr. Jobson Horne showed a case of Malignant Disease of the Tonsil with Glandular Enlargement.—Mr. F. Harvey showed a man in whom Total Extirpation of the Larynx had been performed for Epithelioma with a very favourable result.—Mr. H. Davis showed a man with most exaggerated Elongation of the Uvula and also some specimens of Post-nasal Adenoid Growths removed *en masse* with a curette.—Mr. P. R. W. de Santi brought forward a case of Sub-mucous Hæmorrhages in the Mouth.—Dr. Watson Williams showed a drawing of Congenital Fenestration of the Faucial Pillars.—Dr. Dundas Grant showed a case of Fixation of the Left Vocal Cord probably due to Ankylosis.—Mr. W. G. Spencer showed a boy with a Tumour of the Right Vocal Cord and a Swelling on the Right Leg. The latter was probably of syphilitic origin, but the opinion of the members was that the former was of a simple nature.—Dr. W. Permewan showed a case of Pharyngeal and Laryngeal Tumour for diagnosis, which was thought to be malignant.—Dr. F. W. Bennett also showed a Laryngeal case for diagnosis.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on March 13th, Dr. A. T. Wilkinson, the President, being in the chair.—Dr. W. Milligan showed a series of specimens illustrating some of the chief Intracranial Complications resulting from Suppurative Middle-Ear Disease and made some remarks as to the more usual routes by means of which disease spreads from the middle-ear to the brain.—Dr. Bannister and Mr. Southam showed a Papilloma of the Large Intestine which had produced symptoms of intussusception. The patient was a female, aged 77 years, who about once a month used to have a severe attack of diarrhœa. The growth was felt per rectum during one of these, and was pulled down by forceps, ligatured, and removed. It was attached to the margin of a considerable intussusception. Microscopically the tumour consisted of pure villous material. The patient had had a normal motion daily for the last 16 months.—Mr. Stanmore Bishop showed (1) a specimen of Ovarian Fibroma and (2) an Enlarged Gall-bladder the interior of which was entirely converted into a multilocular cystic tumour. There were no hydatids or gall-stones present.—Dr. Arthur Helme made some remarks on certain Degenerative Processes occurring in Uterine Myomata and showed specimens.—Dr. Powell White showed some sections of lung from two cases of Plague Pneumonia. The sections showed that the lesions were histologically identical with those of ordinary croupous pneumonia, the exudation consisting of fibrin, leucocytes, erythrocytes, and epithelial cells. The fibrous tissue of the lung and pleura was densely infiltrated with fibrin. The bacilli were found in the alveoli, in the subpleural lymphatics, and in the lymphatics accompanying the blood-vessels.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in the University College, Dundee, on March 7th, Dr. A. J. Duncan being in the chair.—Dr. A. McGillivray showed eight ophthalmic cases, one of which was a case of Green Vision associated with a Subhyaloid Macular Hæmorrhage in a man, aged 29 years. The hæmorrhage came on seven weeks ago during straining at stool and was of the usual shape but only about twice the size of the optic disc. On the following day when looking out of the window and at a distance of nine feet from it he discerned on the window pane a circular disc three feet in diameter and of a brilliant green colour. The size of the disc varied as the distance from the window. The green colour remained for 21 days when it was replaced by a dark shimmering.—Dr. McGillivray also showed a case of Subhyaloid Macular Hæmorrhage similar in shape and position to the other but without any green vision.—Dr. W. E. Foggie showed, for Dr. G. Halley, a girl, aged 15 years, the left half of whose lower maxilla had been excised for recurrent Myeloid Sarcoma in November last. An interdental plate had been inserted 14 days after the operation and retained for six weeks. There was now no deformity and the patient was able to masticate fairly well with the right side.—Dr. Foggie also showed a case of Syringomyelia of the cervical region in which, together with a marked muscular wasting in the upper left arm, there were associated trophic changes in the left elbow-joint.—Professor J. A. C. Kynoch showed several specimens, including two Multilocular Ovarian Cysts.

BOURNEMOUTH MEDICAL SOCIETY.—An ordinary meeting of this society was held in the library of the society, Shaftesbury Hall Chambers, on March 13th, Dr. Arthur Ransome, the President, being in the chair. There were 27 members and three visitors present.—The minutes of the previous meeting were read and signed.—In reference to the communication as to the Congress on Tuberculosis to be held in London in July, 1901, the recommendation of the committee that the President be requested to represent the society as a delegate was adopted unanimously.—The President said that he intended being present at the Congress and would be pleased to represent the society.—A ballot was taken for the election of a candidate whose name appeared on the agenda and who was duly elected.—Dr. S. L. Clift showed a patient with Chronic Synovitis of the Left Knee with Effusion into the Joint.—Dr. W. Hooper Masters showed a patient, a man, aged about 50 years, with Torticollis.—Dr. C. D. Muspratt showed a patient with Ankylosis of both Wrist-joints and Right Hip-joint the

result of subacute rheumatism. After this patient had been examined the left arm was submitted to the Tallerman treatment of superheated dry air. During the time the arm was in the apparatus Mr. Tallerman, at the request of the President, made a statement as to the apparatus and the kind of cases which had been benefited by being submitted to superheated dry air.—Several members asked further particulars which Mr. Tallerman gave.—The President conveyed a vote of thanks to Mr. Tallerman.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The sixth meeting of the session was held in the Medical Library of University College on March 13th, Dr. D. S Davies being in the chair.—Dr. J. Beddoe was elected an honorary member of the society.—Professor Michell Clarke showed the following specimens: (1) Tumour of the Right Optic Thalamus and Crus Cerebri; (2) Tumour of the Right Cerebral Hemisphere involving the Corpus Callosum; and (3) a large Intestine from a case of Dysentery.—Dr. J. L. Firth and Mr. C. A. Morton discussed the specimens.—Dr. T. Fisher showed a series of sketches and diagrams of Displaced Abdominal Organs.—Dr. J. Swain, Mr. Morton, Dr. Aust Lawrence, Professor Michell Clarke, and Mr. T. Carwardine spoke on the various conditions.—Mr. Morton read a paper on a case of Successful Operation for Diffuse Peritonitis from Perforation of the Appendix.—Dr. Swain, Dr. P. W. Williams, Mr. Paul Bush, Mr. F. Lace, Mr. Carwardine, Mr. W. H. Harsant, Professor Michell Clarke, and Dr. W. C. Swayne discussed the paper.—Dr. B. M. H. Rogers read notes on a case of Acute Pemphigus.—Dr. J. O. Symes and Dr. Fisher remarked on the case.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—The sixth meeting of the session of this society was held on March 11th, Dr. A. E. Maylard, Vice-President, being in the chair.—Dr. A. Maitland Ramsay showed a series of patients the subjects of Penetrating Wounds of the Eye, with Foreign Body in the Globe. The diagnosis of the condition had been helped by skiagraphy and in the treatment a modified magnet had been found of use.—Dr. W. L. Reid and Dr. A R. Ferguson exhibited a Papillomatous Cyst of the Ovary. The tumour had been removed by abdominal section and the patient had died the same evening from apoplexy.—Dr. G. H. Edington described a case of Epithelioma of the Mammæ of a Cat and showed macroscopical and microscopical specimens.—Dr. A. R. Ferguson showed microscopical sections of a Myxoma occurring in the Epidermis of the Finger after a punctured wound.—Dr. H. Rutherfurd showed a skiagram of a finger in which Dorsal Dislocation of the Middle Phalanx had occurred; the condition had been treated by the dorsal incision to divide the glenoid ligament.

PLAISTOW AND CANNING TOWN MEDICAL SOCIETY.—A meeting of this society was held on March 6th, Mr. H. A. Nelson being in the chair.—Dr. E. Hay showed two cases of Valvular Disease of the Heart in middle-aged men—one a case of greatly hypertrophied heart with a double aortic murmur; the other a case of both aortic and mitral incompetence with a greatly dilated heart. The cases were examined by those present and their conditions were discussed.—Dr. B. Dawson then gave an address of Dyspepsia and other Stomach Diseases. In the course of his address he stated that severe cases of neurasthenic dyspepsia were best treated by rest in bed. He pointed out the value of light solid food in some cases where "slops" were usually prescribed, and went on to describe the different clinical signs of dilated stomach, including the new method by the use of the x rays. He exhibited two patients with greatly dilated stomachs on whom he demonstrated the various signs described.—A discussion followed in which Mr. Nelson, Dr. J. Parker, Dr. J. Webster, and others took part.

ROYAL NATIONAL PENSION FUND FOR NURSES.—The annual meeting of this society was held last week at River Plate House, Finsbury-circus, E.C. Sir Henry Burdett, K.C.B., in moving the adoption of the report, said that it was with the deepest gratification that the council were able to announce that His Majesty King Edward VII. had graciously consented to remain patron of the fund and Her Majesty Queen Alexandra to remain the President. The total funds had increased during the year from £506,000 to £576,000. Mr. Eric Hambro, M.P., seconded the motion, which was carried.

Reviews and Notices of Books.

Essays on Consumption, together with some Clinical Observations and Remarks on Pneumonia. By J. EDWARD SQUIRE, M.D. Lond., D.P.H. Cantab., M.R.C.P. Lond., Physician to the North London Hospital for Consumption and Diseases of the Chest, and to the St. Marylebone General Dispensary. London: The Sanitary Publishing Company. 1900. Pp. 302. Price 10*s.* 6*d.*

THIS volume consists of reproductions of papers and articles which the author has at various times read before the medical societies or published in the medical journals. Dr. Squire has contributed freely to medical literature and some 25 articles appear in his book. The earliest dates back to 1889—"The Causation of Consumption"—a paper read before the Epidemiological Society, in which a full account is given of the various factors which tend to the production of pulmonary tuberculosis.

Chapter VIII. is an interesting one; it is headed "To what Extent can Legislation Assist in Diminishing the Prevalence of Consumption and other Tubercular Diseases?" The paper was read before the International Congress of Hygiene and Demography in 1891. Dr. Squire therein discusses various means which might be employed to combat the spread of tuberculosis. His remarks on "Notification" are a little difficult to follow. He says: "And yet there might be great advantage in requiring that a case of tuberculosis should, under certain conditions, be notified to the health officer." He does not define what he means by "certain conditions," but from his subsequent remarks we presume he would include amongst them the cases occurring in tenement houses, single-room dwellings, or common lodging-houses. He also points out with great frankness the difficulties which lie in the way of notification and which we have frequently dwelt upon. He is of opinion, however, "that the question of preventive legislation directed towards the diminution of tubercular disease is not one to be put aside because of its difficulties, though they are many and great." With most of his remarks we agree; to others, however, we must demur. General hygienic measures have done much to lessen the prevalence of tuberculosis, but to adopt some measures which have been proposed and which are beset with practically insuperable difficulties would inevitably end in failure.

As all the matter in this volume has been previously published we need not comment further; suffice it to say that there is the result of much valuable work scattered through the various chapters, the language employed makes them pleasant reading, and the latest phases of thought concerning "consumption" are here well reflected.

Sir William Broadbent contributes an "Introduction" to the collection of papers.

The Principles and Practice of Hydrotherapy: a Guide to the Application of Water in Disease. By SIMON BARUCH, M.D., Visiting Physician to the J. Hood Wright Memorial Hospital, &c. London: Baillière, Tindall, and Cox. 1900. Pp. 435, numerous Illustrations. Price 16*s.*

WE are informed in the preface that this book "is written by a general practitioner for the guidance of his colleagues." The experience is derived from a private hospital practice extending over a third of a century, and more recently from "special institution practice." We may congratulate the author on the advantage that he has taken of his opportunities for studying hydrotherapy, and he has done good work in publishing the conclusions at which he has arrived for the benefit of the medical profession in general. The work, however, is not a panegyric upon hydrotherapy, but a calm survey of the uses of water as a remedial agent precisely as medicinal remedies are discussed in the text-books on therapeutics.

The first part of the book deals with the physical properties of water and its mode of action in health. We do not remember to have seen such a complete and thorough discussion of the subject. Laboratory experiments are freely discussed and the author has made himself well acquainted with the literature of the subject and marshals his facts in an interesting and scientific manner.

In order properly to comprehend the action of water upon the surface of the body the anatomy, physiology, and functions of the skin must be understood, and Dr. Baruch therefore pays a due amount of attention to this subject, and the effects of hydriatic applications upon the distribution and composition of the blood are also fully considered. The author is of opinion from his clinical and experimental experiences that the changes produced by the thermic and mechanical stimulation arising from hydriatic procedures are very intense and far reaching; further, "that an enormous influence must be exercised by procedures which impress such changes upon the calibre of the vessels, the action of the heart, and the composition of the blood in health, and that its effect in disease must be equally pronounced."

The second part of the book is devoted to the practice of hydrotherapy. The various methods of applying water in disease are clearly and minutely described and illustrated, the *rationale* of each procedure is discussed, and its special therapeutic indications are outlined. The technical details having been thus fully considered the reader is introduced to the practical application of hydrotherapy in acute and chronic diseases.

We notice a marked absence of constant reference to the various spas and health resorts. This is commendable and tends to concentrate the reader's thoughts on the use of water as a remedial agent apart from the general effects of the *régime* of a recognised institution. The author maintains that a fallacious idea still prevails that cases of chronic disease must be sent away from home in order to obtain good results from hydrotherapy. He states that while it is true that the treatment in institutions offers the best prospect in chronic cases, the reason lies not so much in the facilities offered by them as in the experience and consequent skill acquired by physicians from the large *clientèle* of such establishments, and he believes that the requisite knowledge may be as readily acquired by the practitioner as is that of any other department of therapeutics. The question is a difficult one. No doubt Dr. Baruch is, generally speaking, correct, but the thoughts of the reader will at once advert to the so-called hydropathic establishments in this country which were, in the first instance, founded for the purpose of furthering the advantages of hydrotherapeutics, and although in a few this object is still upheld the majority have been turned into resorts for social gaiety, carried to an extent which by no means tends to the comfort and welfare of patients. Returning, however, to Dr. Baruch's book, we can speak in high terms of the manner in which his objects have been carried out, and the volume will serve as a good work of reference to students and practitioners of medicine on a subject but scantily dealt with in ordinary text-books.

A Text-book of Histology, including Microscopic Technic. By A. A. BÖHM, M.D., and M. VON DAVIDOFF, M.D., of the Anatomical Institute in Munich. Edited, with extensive additions to both text and illustrations, by G. CARL HUBER, M.D., Junior Professor of Anatomy and Director of the Histological Laboratory, University of Michigan. London and Philadelphia: W. B. Saunders and Co. 1900. Pp. 500. 351 Illustrations. Price 15*s.*

THIS volume, an authorised translation by Herbert H. Cushing, M.D., of the Jefferson Medical College, Philadelphia, contains substantially all the subject matter and illustrations of the second revised German edition of Böhm and Davidoff's well-known "Lehrbuch der Histologie des Menschen." Additions to the German text have been freely made, and more than 100 illustrations, the majority of which are original, have been introduced into the present work. These additions are to be found chiefly in the section which deals with the modes of termination of sensory and motor nerves. Here excellent descriptions and illustrations are given from the paper by Huber and Lydia de Witt, published in the *Journal of Comparative Neurology*.

We already possess an excellent translation of the "Lehrbuch der Histologie" of Stöhr, and the present work, though somewhat different in arrangement, essentially covers the same ground. The introduction to "Microscopic Technic" has wisely been condensed, so that only the simpler methods of fixing, hardening, and staining are described. The formula for Delafield's hæmatoxylin omits to give the necessary methyl alcohol, and Kultschitzky's hæmatoxylin, which is invaluable as a modification of the Weigert-Pal method, might well have been included among the logwood stains. The use of hæmatein in place of hæmatoxylin crystals, or the addition of various chemical agents which hasten the ripening of stains made with the latter, is now such a general practice that these details might have been supplied with advantage, and the use of carminic acid instead of carmine is useful for a much larger variety of stains than merely for Mayer's paracarmine, the single example which is given.

The use of compressed carbon dioxide, as recommended by Mixter, in place of the common ether-spray is of great service. The advantages of this are pointed out quite clearly, but the description which is furnished of the methods of preparing and soaking tissues for this apparatus are so meagre that we are satisfied no histologist would think of following the directions which are given. The various methods of impregnation with salts of gold, silver, or mercury might with advantage have been transferred to this introductory chapter instead of being distributed under the special technical methods which follow the sections descriptive of special organs or systems. The formulæ for the preparation of injection masses should have been accompanied by more explicit directions for performing artificial injections, and the method suggested, in which a syringe is used, is not often successful except in the hands of a skilled worker, and can never be regarded as more than a rough though rapid method which compares unfavourably with the perfect injections which can only be obtained by the use of an apparatus where a constant pressure of mercury, water, or air is employed. In order to obtain the best results in histological work it is also absolutely necessary in the case of the lower animals to inject the entire blood system with some fixing fluid, and we think that the importance of this procedure might have been pointed out, for although the majority of the illustrations are those of human histology some are necessarily made from preparations of the organs of the lower animals.

Both the text and illustrations of the book are, as a rule, excellent. Of the latter a considerable number have already found a place in many recent English text-books. The figures given of the minute structure of bone-marrow, germinal tubules, the spleen, hairs and hair follicles, and the mammary gland are obviously most accurate representations. The plate of a cell-ball from the glomus caroticum of man is so good that it is a matter for regret that there are no figures of such organs as the pituitary and pineal bodies. The section which deals with muscular tissue, though differing widely in its description from that adopted in most English works, treats the subject with great clearness, and attention is drawn to the histological appearances which indicate that the development of muscle fibres continues throughout the life of the individual. This tissue is to be

regarded as in a perpetual state of transition, the destruction and compensating reproduction of its elements going on hand in hand. The continuous loss of substance is replaced by new elements or myoblasts which are developed from free sarcoplasm which is characterised by rapid growth and increase in the number of its nuclei.

The description and illustration of the liver leave nothing to be desired. The figures of the bile capillaries displayed by the method introduced by Kopsch and the reticulum (Gitterfasern) of connective tissue between individual cells which Kupffer has demonstrated by a special gold-chloride method are exceedingly good and give a knowledge of the minute anatomy of the liver which is quite up to date.

The section which deals with the spinal cord and brain, together with the technique concerned in the demonstration of the histology of the central nervous system, is, in our opinion, not quite equal to the rest of the volume. Apart from the methods the whole subject occupies only about 14 pages, and of these three are occupied by full-page illustrations. In a text-book which is in many respects the best that has been written a somewhat fuller amount of information might have been given. The English student will in particular feel the want of figures of the various regions of the medulla, and if a good description of the variations in histological structure exhibited by various regions of the cerebral cortex and hippocampus had been supplied a real want would have been met, as this important information is omitted in most English text-books. In the technique Stroebe's beautiful aniline blue method and Kultschitzy's hæmatoxylin method might have been included as they are so good and trustworthy. Pal's method as given in the text is by no means the best of the various modifications of the one originally devised by Weigert. The omission of Marchi's method may possibly be defended on the ground that its use is purely pathological, but Marchi's fluid is employed in the methods of both normal and abnormal histology. It is undoubtedly difficult to include in one volume with descriptive histology an exact and detailed account of methods: these alone would require a volume. Historical accounts of such methods as Golgi's are out of place in a text-book of human histology. A few selected methods, the result of actual experience, are the ones required in a book of this kind. It is for the descriptive matter, and especially for the excellent illustrations, that the work will be useful, and as a thoroughly trustworthy and accurate account of human histology this text-book, which deservedly possesses a great popularity in Germany, may be warmly recommended to the attention of students in this country.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XX. Session 1899-1900. London: J. & A. Churchill. 1900. Pp. 338. Price 12*s.* 6*d.*, or subscription to the Society, which includes the volume, £1 1*s.* annually.

THIS volume opens with a short introductory address by Mr. G. Anderson Critchett, in which he reviews the methods that have been employed for the extraction of cataract during the last century and a half and dwells upon the improvements that have been made. The address is succeeded by the Bowman Lecture which was delivered on June 15th, 1900, by Mr. R. Marcus Gunn, who took for his subject "Visual Sensation." The effects of light on chlorophyll granules and on pigment cells were described, with the structure of the retinal elements as given by the most recent inquirers, and the general physiology of vision was discussed. The "Reports" follow Mr. Gunn's lecture; the subjects are arranged topographically, the diseases of the eyelids occupying the first place, then in succession come those of the conjunctiva, cornea, iris, retina, and choroid; intra-ocular tumours are next considered and finally the diseases of the orbit, congenital abnormalities, and injuries and operations.

It is impossible to notice the numerous individual cases that appear in this volume, many of which are of considerable value, but we briefly refer to one or two of them. Mr. W. T. Holmes Spicer describes a case of spring catarrh and gives illustrations of the appearances presented by sections of the mucous membrane of the conjunctiva under high powers of the microscope. The sections exhibit some thickening of the epithelium which in places dips into the substance of the tissue beneath in the form of finger-like projections which, when cut across, give the appearance of nests of cells. Mr. Arnold Lawson brought under the notice of the society a rare case which is here fully reported, of a cicatrix horn growing from the cornea. Mr. Treacher Collins suggested that the pathology of this condition was that there had been originally a perforating ulcer of the cornea leading to exposure and inflammation of the iris, which was followed by the formation of a mass of granulation tissue developing into a pseudo-cornea. This becoming prominent, dry, and scaly constituted the horn. Mr. John Griffith has an article on Iritis as a Sequel to Gonorrhœa. The intervals between the occurrence of the two diseases are very considerable—in one case 15, in another 12, years—and corroborative evidence seems to be required. Three cases of Ophthalmitis are recorded by Dr. Percy Flemming occurring in children with pseudo-glioma; one resulted in recovery and two proved fatal from meningitis. Dr. Flemming regards the meningitis and the ophthalmitis that proceeded concurrently in these cases as the result of a pyæmic or septicæmic condition. He thinks middle-ear suppuration to be a likely source of the pyæmic process in some cases and recommends that the ears should be examined in all cases of ophthalmitis and that both tympanic membranes should be punctured even if they appear to be healthy. Interesting accounts are given of various intra-ocular growths by Mr. Work Dodd, Mr. J. Herbert Fisher, and Dr. Charles R. Box. Various interesting cases of changes in the fundus oculi are recorded, especially a series reported by Dr. F. Menteath Ogilvie of concussion injuries of the eye, one of the characteristic features of which is a hole at the macula. Dr. Ogilvie has collected 15 of such cases. The holes in general have a very sharply-defined edge, though radiations may proceed from it. As a rule there is a well-marked central scotoma, but the intensity of this varies. The last article which we shall mention is one by Dr. Walter Edmunds on experimental exophthalmos and enophthalmos in which the effects of the ablation of the thyroid body are well given. The volume contains the accounts of many interesting cases and is enriched with 14 plates, many of which are coloured.

This volume of the Transactions contains an index of volumes XI.–XX. inclusive, which is very complete and will prove useful to all who have occasion to refer to the "Reports." A list of the additions to the library since November, 1900, also accompanies the volume.

L'Avortement. By Professor P. BROUARDEL. With 15 Figures in the Text. Paris: J. B. Baillière et Fils. 1901. 8vo, pp. viii.–376. Price 7 fr. 50 c.

THE occurrence of natural abortion is so frequent and the practice of procuring criminal abortion is spreading to such an extent at the present day that the whole question is one of great interest to those practising obstetric medicine both from the medical and the medico-legal point of view. The distinguished position and the great experience of the author of this work render it one of much value.

In a historical review Professor Brouardel shows that

amongst primitive peoples there existed the most complete indifference towards the preservation or destruction of the products of conception. Aristotle and Socrates both thought the production of abortion a perfectly justifiable measure, and Hippocrates was the first to state that he would neither countenance nor carry out such a procedure. That it was frequently practised in his day is shown by the long list which he gives of the complications that may ensue.

After considering the history of the subject, the author gives some very interesting facts as to the period of pregnancy at which abortion is most commonly procured. He also points out that at the present time there can be no doubt but that large numbers of so-called midwives in Paris practise as abortion-mongers. The number of such women is too large to allow of their making a livelihood by legitimate practice. In considering the etiology of natural abortion a great deal of information is given as to the action of various metallic and organic poisons upon the uterus. The various procedures that may be employed for the production of criminal abortion are described under the following heads. 1. The administration of abortifacient substances. 2. Various manipulations that may be carried out either upon the body, such as massage or forcible compression of the abdomen, or direct manipulations upon the vagina, the cervix, and the body of the uterus. The plants that are regarded as having a direct abortifacient effect upon the uterus are as follows: yew, savin, juniper, arbor vitæ, tansy, rue, and ergot. The question as to whether it is possible for a woman herself to introduce various substances directly into the uterus is answered in the affirmative. The immediate and remote effects of abortion are dealt with, including the possibility of sudden death and the occurrence of septic infection. The last two sections deal with some most important medico-legal questions—the examination of the patient, the examination of various substances expelled from the uterus, the performance of necropsies, and the recognition of the signs of recent abortion.

In the last section the author gives a number of examples of the kind of questions that the medical expert in such a case may be called upon to answer.

In an appendix the details of a number of important cases are cited, illustrating various points in such cases, and containing a number of very interesting medico-legal reports. The book is well worthy of its distinguished author and will be of assistance not only to medical jurists but also to anyone who may have to give evidence in one of these very serious and often very difficult cases.

Report on the Water-supply of the County of Essex. By JOHN C. THRESH, D.Sc. Lond., M.D. Vict., D.P.H. Camb., &c. Chelmsford: Meggy, Thompson, and Co. Pp. 180. Price 3*s.* 6*d.*; in cloth, 5*s.*

THIS little book gives an excellent description of the water-supply of Essex. It deals briefly with the geological formation of the county, with records of the average amount of rainfall, and gives many analyses of the water obtained from the subsoil and from deep wells. There are no less than 11 maps showing the river basins, the undulations of the chalk, and the distribution of the water mains in places which have a public supply. The most interesting map is one which gives the situation of the deep wells in the chalk and which marks the distribution of those which yield what Dr. Thresh calls "soda-water"—a beverage which must not be confounded with the aerated water popularly known by that name. The author disarms criticism by saying that the book was hurriedly prepared for the use of the Essex County Council, and he invites corrections and suggestions for alterations. In the compilation of such a report the author must necessarily depend to a very large extent on the information which is supplied to him, but in the case of a quotation it is always best that the passage should be distinctly marked in the usual manner. In Dr. Thresh's book this is not always done; for example, on p. 88 the reader is struck by a footnote referring to the text above to the effect that "These opinions are certainly curious and imply a very limited knowledge," &c. On looking back two pages it is evident that the author of the curious opinion is either an officer of the Local Government Board or Mr. Sasse, the borough surveyor of Chelmsford. For the casual reader a good index is desirable; for the busy man using a work for reference an index is almost indispensable. We hope to see one in the next edition of this book.

Dr. Thresh's report should be read by all county medical officers of health, and all County Councils in the country should try to obtain such a report in the case of the districts which they represent.

LIBRARY TABLE.

Medical and Surgical Nursing. Edited by H. J. O'BRIEN, M.D. New York and London: G. P. Putnam's Sons. 1900. Pp. 278. Price 6*s.*—This manual for nurses is the united work of several authors, mostly connected with the St. Joseph's Hospital Training School for Nurses, St. Paul, U.S.A. The contents consist of 15 chapters, of which the most important are those dealing with asepsis and antisepsis, general nursing, and cooking for the sick. The latter is, perhaps, the most valuable contribution of the series; it advocates precision and claims that cooking is an exact science and "cannot be done for the sick by guesswork without great risk." This plea for accuracy in the feeding of the sick is in marked contrast to a slovenly article on Infant and Child. In this latter chapter accuracy is sneered at, nurses are recommended to allow infants to consume as much food as they fancy, and the troubles of teething are regarded as myths. "They are due to improper methods of feeding," and such troubles would be many, we fancy, among infants brought up on the methods advocated. With the exception of three or four articles it is difficult to see what useful object the contents of this book can subserve in the training of nurses. Many better works on the same subject have been published both in England and in America; the price, too, is almost prohibitive for a nurse, and considering that the book is small and contains no illustrations it is altogether too expensive.

Transactions of the American Orthopædic Association. Vol. XIII. 1900. Philadelphia: published by the Association. Pp. 356.—This volume contains in all 36 papers, including the Presidential address delivered by Dr. H. M. Sherman of San Francisco. Dr. Sherman's address gives details of the results of an inquiry into how far orthopædic surgery is taught as a special subject in American medical schools. Out of 76 colleges only 38 mentioned the subject as being taught, while 60 "specialised" in gynæcology, 59 in pediatrics, and 58 in neurology. Of the various papers perhaps the most notable are those of Dr. A. M. Phelps upon the Treatment of Abscesses of the Joints with Glass Speculum, Drainage, and Pure Carbolic Acid, with a report of 70 cases. Dr. Phelps opens the abscess cavity, removes diseased tissue, and fills the cavity with pure carbolic acid which is allowed to remain for one minute. The acid is then washed away with alcohol which is in turn washed away with a 2 per cent. solution of carbolic acid. A large glass drainage-tube is then placed in the cavity, which tube is packed with gauze or some similar material. The tube is of as large a diameter as the cavity will take. Patients thus treated were discharged from hospital within three weeks from the date of the operation. Another interesting paper is that by Dr. R. W. Lovett of Boston upon the Mechanics of Lateral Curvature of the Spine. By means of using cadavers and living models flexion simultaneously forwards

and laterally was shown to be accompanied by rotation of the bodies of the vertebræ. In forward and lateral flexion the bodies of the vertebræ, both in the cadaver and the model, turned towards the convexity and the spines towards the concavity. In backward flexion with lateral flexion just the reverse occurred. The chief conclusion of the paper was, therefore, that to correct the torsion observed in scoliosis the spine should be extended and that side bendings should be taken from extended positions.

The Law of Joint-Stock Companies Acts, 1862–1900. By JAMES WALTER SMITH, LL.D. London: Effingham Wilson. 1901. Pp. 212. Price 2*s.* net.—This volume, which is one of Mr. Wilson's legal handy books, gives a great deal of information in a comparatively small space about the law relating to joint-stock companies. Directions for forming a company are also given. A feature of the book is the index, which is very full.

La Surdi-Mutité: Étude Médical. Par ÉTIENNE SAINT-HILAIRE. (*Deaf-Mutism: A Medical Study.* By ÉTIENNE SAINT-HILAIRE.) Paris: Maloine. 1900. Pp. 354.—Dr. Saint-Hilaire has been in charge of the Seine Department Institute for Deaf Mutes since its foundation in the year 1893 and has made the very best use of the unequalled opportunity of studying this affliction which has been thus placed within his reach. The result is the work that he has now presented to the profession. Dr. Saint-Hilaire's is the first monograph on the subject in French and it is at the present time the most complete work on the subject extant, the recent works of Holger Mygind and Kerr Love as well as no fewer than 670 works and papers having been made use of in the compilation of the statistical and other portions of the book. The first chapter deals with Definition and Classification, and the second with the Distribution of deaf mutes, not alone in France, but also in the whole world, the distribution in France naturally being most minute. The third chapter, under the heading Pathogénie, deals first with Heredity, this being considered under the subdivisions of similar and dissimilar heredity. By similar is meant the transmission of the disorder from the parents, grandparents, or collateral branches, dissimilar being the existence of deaf-mutism in the progeny of the subjects of other nervous disorders, "La maladie nerveuse qui se transmet se transforme a dit Legrand du Saulle; c'est ainsi qu'on voit se succéder, dans les mêmes familles, la manie, &c." (p. 56). Upon the consideration of heredity follows the consideration of consanguinity, of causes of degeneration and of acquired deaf-mutism. The fourth chapter consists of a thorough description of the Pathology and Pathological Anatomy of Deaf-mutism; and the last three chapters deal with Symptomology, Diagnosis and Prognosis, and Prophylaxis and Treatment respectively. Dr. Saint-Hilaire has exercised the greatest care in the production of his book and it will amply repay perusal and will form a valuable addition to any medical library. In particular the chapter on Prognosis and Treatment will be of the greatest assistance to all who have to treat or to advise in the treatment of this most unfortunate class of humanity.

The Nursing Profession: How and Where to Train. By Sir HENRY BURDETT, K.C.B. London: The Scientific Press, Limited. 1901. Pp. 390. Price 2*s.* net.—This is the third year of publication of Sir Henry Burdett's useful book of information for nurses and would-be nurses. The introductory chapters contain an account of the general requirements of the schools and an excellent abstract of the laws which affect nurses in so far as their duties are concerned. The remainder of the book is taken up with details of hospitals and other training institutions, of establishments where nurses are employed but not trained, of Government and other appointments, together with a list of colonial, foreign, and American hospitals and nursing institutions. A list of provident funds, examining bodies, and associations for the benefit of nurses, is also given.

JOURNALS AND MAGAZINES.

THE *Medical Magazine* for March contains an article upon Duodenal Ulceration by Dr. H. W. Syers which sums up very well the difficulties of diagnosing the generally obscure cases of this affection. Dr. Syers points out that, as is well known, the class of patient usually the subject of duodenal ulceration is quite different from that of the anæmic woman in whom gastric ulcer most commonly occurs. Middle-aged men are the subjects of duodenal ulcer and commonly—a point which Dr. Syers does not mention—they are men who take alcohol too freely. Dr. Syers lays great stress upon melæna as the most important symptom. As regards the etiology of the affection we cannot entirely agree with Dr. Syers's opinion that this will be only thoroughly understood when the anatomical distribution of the small vessels in the intestinal mucous membrane has been worked out. There is more chemistry in the matter than this, we suspect. Dr. Syers believes that Cardinal Wolsey died from duodenal ulceration. Dr. R. Tanner Hewlett contributes a comprehensive paper on Mediterranean or Malta fever. He gives typical charts of the long undulating pyrexia and a photograph of cover-glass preparations of the micrococcus melitensis. The Prison Act of 1898 is discussed by Mr. A. G. Whiteway who raises the question of paying greater attention to the previous history and the present mental and physical conditions of culprits. Greater facilities should be given, he holds, for training medical men in the necessary work, and medical students should be instructed at prison infirmaries.

The *Practitioner* deals mainly this month with Malaria and those who have lately added to our knowledge of the disease. Just as more popular magazines are wont to heighten the interest of a forthcoming serial by giving beforehand incidents concerning the life and habits of its author, so the *Practitioner* preludes the articles on malaria with short biographical notices of some of the chief workers in this field. Then follow articles by Dr. Patrick Manson, Mr. D. C. Rees, Dr. Louis W. Sambon, Mr. E. E. Austen, and Dr. Tanner Hewlett. In "The Month" the editor comments on Mr. Burdett-Coutts's criticism of the Royal Commission on medical affairs in South Africa.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., M.D. Cantab., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXVI., Nos. 3 and 4. London: C. J. Clay and Sons. Feb. 28th, 1901. Pp. 165. Price 10*s.*—The articles contained in these numbers of the *Journal of Physiology* are: 1. The Movements and Innervation of the Small Intestine, by Mr. W. M. Bayliss and Dr. E. H. Starling. The authors in a previous paper had taken for the subject of their experiments the dog; in the present one their researches were made upon the rabbit and upon the cat. 11 woodcuts giving tracings accompany the text. 2. On the Effects of Venous Obstruction on the Secretion of Urine, by D. H. de Souza. This observer finds that either partial or complete obstruction of the renal vein always causes a diminution or cessation of the urinary secretion, and further that the flow of urine from the kidney is (other things being equal) directly proportional to the velocity of the blood-flow through the kidney. He does not consider that the function of the glomeruli has been quite satisfactorily determined. 3. On Metabolism in Forced Feeding, by Dr. W. Hale White and Dr. E. I. Spriggs, with three figures in the text. 4. On a Method of Estimating the Interference with the Hepatic Metabolism Produced by Drugs, by Dr. D. Noel White and Dr. J. Eason. 5. On the Origin from the Spinal Cord of the

Vaso-dilator Fibres of the Hind Limb and on the Nature of these Fibres, by Mr. W. M. Bayliss. The author shows that there are vaso-dilator fibres in the posterior roots of the fifth, sixth, and seventh lumbar, and in the first sacral, nerves. They pass directly into the lumbo-sacral nerves. Their trophic centres are in the ganglia of the posterior roots. There are 17 figures in the text. 6. An Attempt to Estimate Fatigue of the Cerebral Cortex when caused by Electrical Excitation, by Dr. A. G. Levy, with 10 figures in the text. The plan adopted in this research was to anæsthetise the animal, which was usually a cat, though occasionally a dog, and to stimulate the cortex with a current of electricity; the length of time during which the muscles affected by such stimulation continued to contract and the vigour of their contraction were then determined. 7. The Physiological Effects of extracts of Nervous Tissues, by Dr. W. D. Halliburton, with 21 figures in the text. The injection of brain and other nerve extracts produces a fall of blood-pressure in cats which the author attributes to the presence of cholin. 8. The Composition and Action of Orchitic Extracts, by Dr. Walter E. Dixon, with 25 figures in the text. These extracts lower the blood-pressure. 9. On the Action of Iodine and Iodides, chiefly with regard to the Muscles of the Frog, by Dr. Ralph Stockman and Dr. Francis J. Charteris. 10. On the Nature of the Sugar Present in Normal Blood, Urine, and Muscle, by Dr. F. W. Pavy and Mr. R. L. Siau. The part concludes with the Proceedings of the Physiological Society.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., M.D. Cantab., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Index to Volumes I. to XXV. inclusive. London: C. J. Clay and Sons. February, 1901. Pp. 192. Price 15*s*.—This is a much-needed and excellently executed volume. In looking up authorities and the labours of previous observers on any given subject nothing is more wearisome than to have to look through the indices of numerous volumes, especially when, as in the case of the *Journal of Physiology*, there is only a table of contents and a list of authors' names prefixed to each volume. The scheme here adopted is sufficiently comprehensive and no difficulty can arise if either the name of the author or the subject of inquiry is known in ascertaining when and by whom any specific item of work was done, whilst if the investigator only wishes to ascertain what original work has been carried out in almost any department of physiological knowledge during the last quarter of a century in this country he still has the means at his disposal in the pages of this index. It is conveniently divided into three parts. In one the names of the authors are arranged in alphabetical order, and a short title of the several papers written by each author is appended with the date and the volume and page of the journal in which they are to be found. In a second part, distinguished by a different-coloured paper, the contents of each volume are given, together with the full title of the articles; cross references enable the date of publication to be readily seen. In a third part or index proper the contents of the 25 volumes are arranged in accordance with the subjects of the several articles. This part is the one that will prove most generally useful. The scheme that has been adopted was devised by Professor J. N. Langley who is responsible for its execution, but due praise must be given to Miss L. J. Naylor, to whom has fallen the task of corresponding with authors (who have in many instances given *précis* of their papers) and of copying the slips. A glance through the headings of some of the more important subjects will show that the preparation of the index must have involved much time, care, and consideration, and it really affords an excellent idea of the recent work that has been done in that particular direction. Thus under the heading "Heart" there are references to no less than 112 articles, under the heading "Kidney and Urine" to upwards of 60, and under that of "Brain and Spinal Cord" to about 80. The task of the searcher is lightened by the references being arranged according to certain subdivisions which are given immediately under the heading. Thus under the heading "Heart" the succeeding references are disposed under the subdivisions: (*a*) Electrical Phenomena; (*b*) Mammals (α) Sounds, (β) Nerves and their Action, (γ) General; (*c*) Birds and Fish; (*d*) Reptiles; (*e*) Amphibia (α) Action of Chemical Substances, Circulating Fluids, (β) General; (*f*) Invertebrates; (*g*) Cardiac Muscle. In conclusion, we may remark that the work is indispensable to those who possess the several volumes of the *Journal of Physiology*, and will be found extremely useful by all who wish to have a ready means of following recent advances in physiological knowledge.

Man: a Monthly Journal of Anthropological Science. Published under the direction of the Anthropological Institute of Great Britain and Ireland.—The March number of this journal contains among its original articles notes from Australia, Madras, New Zealand, Lord Howe's Island, and the New Hebrides. Mr. Henry Balfour describes and figures a peculiar form of beaked boomerang in which the beak is not, as is usual, continuous in structure with the shaft but is formed of a separate piece of wood fixed to the shaft with gum. Mr. F. Fawcett gives some interesting notes upon the Dimbs of Jeypore, an Outcaste Jungle People of the Vizagapatam District of the Madras Presidency. From New Zealand comes a curious note from Mr. J. Edge-Partington upon a Matuatonga or Sacred Image of the Maori People. We are glad to see that those who are not members of the Anthropological Institute can obtain this journal for the sum of 10*s*. per annum, for the subjects therein dealt with are of especial interest in these modern days when old customs and nations are fast passing away.

New Inventions.

AN ELECTRICALLY-LIGHTED BRUNTON'S AURISCOPE.

THIS adaptation has been made for me and at my suggestion by Messrs. Arnold and Sons, Smithfield, London, E.C. It will be found useful for examining the tympana and ossicles without the necessity, always troublesome alike to medical man and patient, of adjusting the auriscope and posing the patient's head into such a position that the daylight or lamp-light shall be fully thrown into the reflecting trumpet of the instruments. Moreover, it is an adaptation to a cheap form of a long-lasting, dry cell battery, with no acid to spill or corrode, that has lately been put upon the market and has found a large sale among my *confrères*. Fig. 1 shows a silver-plated Brunton's auriscope (O) with its reflecting trumpet (T). Fig. 2 shows the lamp fixed by two or three turns of a screw to its wooden holder (H) and connected to the battery (B) by means of silk-covered insulated wires (W) disappearing into the cells through the hole X, (Figs. 1 and 2). My adaptation consists of a flat ebonite disc (D E), carrying a small electric lamp similar to, and of the same power as, the before-mentioned one, or as described below; the latter may be used for both holder and auriscope. The disc carrying its lamp is easily and quickly adjustable by means of two claws and a single screw (S) to the rim of the reflecting trumpet of any ordinary-sized Brunton's auriscope, and is shown in position by shaded lines in Fig. 1. This renders the instrument self-lighted. To switch on the electric light press down the push (P). As the life of the dry cells when in use is limited, like that of the lamp itself, to so many hours—viz., of continual light—the push is important from an economical point of view, so that neither battery nor lamp (but especially the former, having the shorter comparative term of existence) may be used for longer than is actually necessary. The push, indeed need not be pressed down until the speculum of the auriscope (S P, Fig. 1) is in

the meatus auditorius, and it can be immediately released when the inspection of the tympanum is over. For those who already possess one of the batteries in question with its holder, lamp, and wires, the holder can by my arrangement be easily and quickly detached from the battery and the ebonite disc carrying its own lamp as easily and quickly substituted for it. The connecting arrangement is shown at C, Fig. 2, and is such that the ends of the wire from the battery can never touch each other, causing the battery to

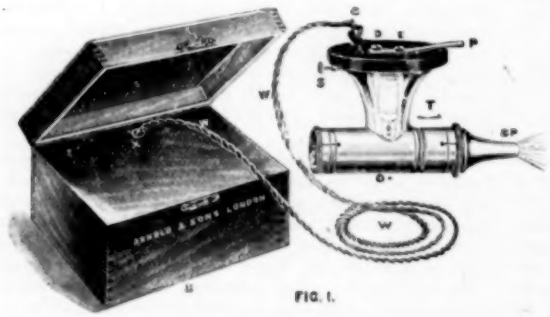

FIG. 1.

expend itself when not in use and so to be useless just at the moment when required—a vexatious occurrence which those who have used electric batteries may probably at one time or the other have experienced. But for greater convenience, although at an extra but small cost for the wires, it will be found better to have a battery with its own wires connected up to the disc. This connexion is made by a similar method to that already described and is as easily and quickly detachable from it. It is shown at C (Fig. 1) I have had the wires made about 30 inches long so that the auriscope may

FIG. 2.

easily reach the ear of the patient when the battery is placed on a table close at hand. If it be thought desirable to have only one lamp for both holder and auriscope the lamp can be unscrewed from its holder and screwed into the auriscope disc, a similar-sized socket being on both holder and disc, and in each case two or three turns of a screw will hold the lamp in its place and connect it up at the same time. The lamps are, however, supplied separate very cheaply. The battery, disc, and lamp, without holder, can also be obtained from Messrs. Arnold and Sons.

Tottenham, N. GEORGE H. VOS, M.B. Cantab.

SMALL-POX AND VACCINATION IN PARIS.

(FROM A CORRESPONDENT.)

IN *La Presse Médicale* of Feb. 23rd, Dr. Roger, who has for some years had charge of the Isolation Hospital wards at Aubervilliers, publishes an interesting article explaining why the present epidemic of small-pox is not yet over. In this English readers will find much to reconcile them to the means taken in England to oppose such an epidemic as compared with those in France, where science and her dictates are supposed to reign supreme. It will be seen from this article that it is doubtful if vaccination is more thorough in France than in England, and that it is certain that the isolation practised in the former country is much more imperfect and unsatisfactory than in the latter. Dr. Roger openly states that the foreigners who visited his wards in this so-called "temporary" isolation hospital—it is 15 years since its construction—declared that they had never seen such a defective organisation, and he protests against the necessity of receiving in such wards patients who ought to get well, who are generally youthful and of good constitution, and valuable members of the State.

In 1898 there were only two cases of small-pox in Paris, and from June of that year to Dec. 25th, 1899—a period of 18 months—there was not a single case. In January, 1900, eight cases were received into the isolation hospital, and the year 1900 saw over 900 entries. Dr. Roger points out that vaccination and revaccination have been incomplete either from negligence or from prejudice or because of previous unsuccessful vaccination. Facts have convinced him that vaccination confers but a temporary immunity and that it may sometimes only guarantee that the attack shall be a slight one. Thus one of his male nurses who had been well vaccinated took small-pox a year later. A great number of cases had also been unsuccessfully vaccinated one or two months before and Dr. Roger therefore recommends vaccination every 10 years, but if an epidemic should break out he insists upon immediate and universal re-vaccination.

Vaccination is only compulsory in France in the sense that a certificate is required upon many occasions—for instance, during military service, on entrance into schools, and in administrations of public services and offices. Though carried out on a large scale, therefore, it is not obligatory or universal and the isolation devised is highly imperfect and illusory. Until recently the wooden wards were inclosed only by a low railing which the patients easily scaled on their way to a neighbouring tavern or through which the friends of the patients conversed and handed parcels, &c. During the last three months the palings have been improved and two policemen guarantee night and day the isolation of the small-pox cases. It is almost incredible that the patients are allowed to write letters to their friends outside—letters that it has been found impossible to disinfect—but the law allows it. Hardly less credible is the fact that patients need not remain in hospital till the scales are all fallen; on the contrary, many leave as soon as they feel well enough or as soon as the pustules no longer make them objects of disgust. Dr. Roger states that almost all the female patients leave in from 20 to 25 days. What wonder that the epidemic persists when such patients return home shedding their infected epithelium in their dwellings, in the streets, in the cars and omnibuses, and until recently actually in cabs which they were allowed to call. For the last three months, it is true, a patient who insists upon leaving before he is cured must do so in an ambulance. This is the extreme limit of the power of the law. In one of Dr. Roger's cases the kindly *concierge* nursed a patient in the garret until she finally succeeded in giving the disease to most of the other lodgers. In another case the *concierge* himself took the disease and remained in his *loge* until some weeks later his wife also was attacked. The man then resumed his duties, carrying the letters, cleaning the staircase, receiving the visitors, and scattering his epithelial scales broadcast. One *concierge* refused to admit the accuracy of Dr. Roger's diagnosis and returned home to take care of the eruption which, she said, came "from the blood." It is certain that some cases are undiagnosed. Many medical men in practice have never seen a case of small-pox, for the happy reason that as it exists but at intervals they only know it theoretically. Courses of instruction in the specific fevers should undoubtedly be compulsory for students of medicine.

The lamentable state of things, therefore, in Paris as elsewhere, is that we know how to suppress small-pox, but we do not put our knowledge into effect. Compulsory vaccination and re-vaccination and an effective isolation of the infected—*ibi salus est.*

THE LANCET.

LONDON: SATURDAY, MARCH 23, 1901.

The Remuneration of Medical Witnesses.

THE attitude of the Home Office towards the question of the fees to medical witnesses in criminal courts and before coroners continues to be one of indifference veiled under more or less polite platitudes. In replying to a question on the subject put to him by Mr. W. F. LAWRENCE, M.P., the other day, Mr. RITCHIE said: "I do not think the fees of medical witnesses can be touched without dealing at the same time with those of other witnesses, and this I am not prepared to do in view of the largely increased cost of prosecutions which might be the result of such a revision of the present scale." Mr. RITCHIE'S predecessor, Sir MATTHEW WHITE RIDLEY, frankly refused on two occasions to receive deputations on the subject, and Sir MATTHEW WHITE RIDLEY'S predecessor, Mr. ASQUITH, in answering a deputation in 1895, said, among other things: "The same remark [i.e., that the remuneration of medical witnesses is inadequate] might be applied with a greater or less degree of truth to every item in the scale as applied to a professional witness. If it were true that it was a condition of the medical profession to attend courts in a sense which could not be said of other witnesses, then the logical conclusion to his mind was not that this scale of remuneration should be altered," but, he went on to suggest, that special arrangements should be made between police surgeons and watch committees.

In applying the opprobrious term "platitudes" to such replies as these we venture to suggest that they are not the result of the individual reflections of the gentlemen who made them, but are rather in the nature of stock objections filed for the use of Home Secretaries by permanent officials unwilling to sanction the amendment of a long-standing grievance. Mr. RITCHIE says that he does not think the fees of medical witnesses can be touched without dealing with those of other witnesses, while Mr. ASQUITH clearly did not see, or refused to admit, that it was a condition of the medical profession to attend courts in a sense in which other witnesses could not be said to attend them. Mr. RITCHIE went further by offering speculative conjectures as to the large increase of costs if the fees of other witnesses as well as of members of the medical profession were augmented. If by other witnesses Mr. RITCHIE meant other professional witnesses, following the line of argument adopted by Mr. ASQUITH, we disagree with him. It is, however, a matter in which a return could easily be made that would put the point beyond question, and we should like to see by how much per cent. the average cost of prosecutions in England and Wales would be increased by the adoption of a similar scale to that prevailing in Scotland or in Ireland. English Home Secretaries ignore the fact that medical witnesses are remunerated on far higher scales both in Scotland and in Ireland without apparently undue burdens being cast upon the funds made liable. With regard to the theory, held apparently both by Mr. RITCHIE and by Mr. ASQUITH, that medical men are not members of a profession peculiarly situated as regards giving evidence we do not feel disposed to discuss at length what most of our readers will agree is obvious. We only point out that in the prosecution of nearly all crimes of violence, and of nearly all sexual crimes, medical witnesses are called and that these are not always police surgeons. They are frequently medical men who are witnesses because they could not, without incurring the charge of inhumanity, refuse to render aid to persons injured for whom their aid was sought, although to render it meant to incur the pecuniary loss involved in attending the criminal courts.

We would further point out that the attendance of medical witnesses is a matter of which the statistical returns are obtainable and that the statistics would certainly show that medical witnesses attend courts as witnesses of no other profession do, while we may ask what class of witnesses there is that is now urging that its members should be treated differently, or what class of witnesses, in the opinion of the Home Office, would combine to protest if the claims of medical witnesses were dealt with separately. The fact that the British Medical Association and the United Kingdom Police Surgeons' Association have formed a joint committee to approach the Home Office in the matter is not required to prove that the scale of remuneration for medical witnesses is insufficient. The Home Secretaries whom we have quoted do not deny that. The fact that these organisations have formed such a committee for such a purpose, in the absence of other organisations representing other professions, is evidence that the insufficiency of remuneration for professional witnesses affects medical men in a peculiar degree. We are thus led to the conclusion that the grievances of medical witnesses could be remedied without injustice to others, and that Mr. RITCHIE'S statement of opinion to the contrary would not be easy to support by any logical argument.

Alcoholism and Insanity in Scotland.

DR. T. S. CLOUSTON, the medical superintendent of the Royal Edinburgh Asylum, Morningside, in his recent annual report to the Edinburgh corporation has included some statistics on an increase in alcoholic insanity in Scotland which have somewhat startled Scotland. The figures constitute another valuable contribution from our profession to the solid arguments on which any successful effort to procure effective legislation for promoting the sobriety of the nation must be based. There have been many differences of opinion as to the exact rôle of alcohol in pathology, even in regard to Scotland, where such a large field exists for clinical and post-mortem study of the facts. To judge from the extent to which whisky, the almost universal Scotch drink, has lately been introduced into England, the observer might think that

it was as innocent as new milk. And certainly some forms of disease which might be looked for from its use in Scotland are comparatively rare—cirrhosis, for example, and to some extent gout and alcoholic neuritis. We really want from the pathologists of Scotland a good account of the pathological effects of whisky as a national drink. On one point there seems little doubt—that is, its injurious effect on the brain. There is a general consensus of opinion on this point.

Our immediate purpose is to direct attention to Dr. CLOUSTON'S report on the rapid and striking increase during 1900 of insanity among the working classes of Scotland, particularly in Edinburgh, and to his conviction that it was due to the freer use of alcohol as a part of the high prosperity of the year. Dr. CLOUSTON says that "he never had experience of anything approaching this before and that he would fail in his duty if, seeing more of the terrible effects of excessive alcohol drinking in destroying human reason and self-control than almost anyone else in Scotland, he did not strongly draw attention to a fact so disgraceful to them as a community." We should equally fail in our duty if we did not note Dr. CLOUSTON'S facts. Practically they amount to this. The year was a record one for admissions. The increase was entirely in rate-paid cases, the numbers of which prevented Dr. CLOUSTON from admitting private patients at a low rate of board, which, he says, constitutes a great hardship to the friends of patients whose means are small—a class, we may add, entitled to the greatest sympathy in every community. Of course there are not wanting in Scotland able apologists for alcohol who are not willing to admit Dr. CLOUSTON'S conclusions. It is easy to suggest flaws in the chain of evidence that associates this startling increase of pauper insanity with an increase in the consumption of alcohol. The complex causation of insanity in any individual case can always be insisted on. And it must be admitted that prosperity was not the only note of the year 1900. It was a year of war and of much adversity in war in which Scotland was deeply and not dishonourably concerned. But no criticism of this sort will seriously shake the effect of the report of Dr. CLOUSTON, who has taken all these other possible causes into consideration, and who has come deliberately to the conclusion that in a fourth of his cases in excess of the average the determining cause was alcohol. The conclusion coincides too closely with other medical evidence to be open seriously to doubt. There is but one consolatory fact in such a conclusion. The situation is discreditable to the intellect and the morals of religious and educated nations such as England and Scotland, but it is remediable, and removable to a very great extent, if the legislature will consent to give its help to social and political reformers.

The immediate cause of the overcrowding of the Royal Edinburgh Asylum during 1900 was the great rush of rate-paid cases. They numbered 400, or 20·5 per cent. over the average of the past five years. After descanting on the inconvenience of such an increase and considering the complex causation of it, Dr. CLOUSTON says that "he could not get over the conclusion that the excessive use of alcoholic stimulants during times of brisk trade and high wages had to a large extent been the cause of the undue amount of mental disease which they had been called on to treat last year, constituting about a quarter of the whole admissions in whom drink was assigned as either the sole or a contributory cause." As regards the admissions of men alone 81, or about one third, were alcoholics. Dr. CLOUSTON does not think seriously of the general increase of mental disease in Scotland, at least in the classes from which private patients come. In the 20 years ending 1899 the increase of such patients amounted to only 378, an increase of 16 patients a year, in a population of 4,200,000, whereas the rate-paid class of patients increased in the aggregate 2545, or at the rate of 124 a year. It is sad to have to notice that the greatest increase is in the northern and Highland counties where life is solitary. The increase of pauper insanity in the Highlands amounted to 17 per 100,000 inhabitants, in the rest of Scotland to 9½, and in Edinburgh to only 3. The blue books show that in Scotland, as elsewhere, the aged suffering from any brain failure are sent with increasing frequency to asylums, but it may be a matter of just pride to Scotchmen that they support their insane relations without letting them fall on the rates in twice the proportion of Englishmen, and in over three times that of Irishmen.

Dr. CLOUSTON does not preach voluntary teetotalism or legal prohibition or any impracticable doctrines. He simply aims at reducing the disease produced by alcohol, acting on the lines of Dr. SNOW and Sir JOHN SIMON when they pointed out that the causes of preventable disease lay in contaminated water. Insanity and general physical degeneration call as loudly for repression as does cholera. The nation was never more interested in ascertaining and removing the causes of such evils than it is to-day. The removal of preventable alcoholic disease is as much a duty of statesmen and politicians as it is of philanthropists, on whom some politicians would throw the whole work of dealing with this class of disease. The State has already acknowledged responsibility. The whole system of licensing laws is such an acknowledgment. A more recent one is a Bill contemplating the reform of the intemperate, to which measure Lord SALISBURY has just given his adherence. Surely our statesmen will not argue that they do all they can to stop the enlarging mortality from alcohol pointed out to them by the medical profession and the Registrar-General when they make ineffective efforts to reform habitual drunkards and leave untouched the laws which acilitate the creation of drunkards. The legislation in behalf of habitual drunkards is little better than a delusion. There are at least a score of preventive measures—apart altogether from the thorny question of compensation and the reduction in the number of public-houses—of urgent importance in regard to which public opinion is ripe for legislation. We venture to hope that Dr. CLOUSTON is a little too despairing of the prospects of receiving help from this Government. Mr. RITCHIE'S last speech is promising, and we hope that performance is meant. If the result does not meet public expectation we agree with Dr. CLOUSTON in thinking that a "big reckoning" may overtake the present administration when the cessation of war enables men to realise the destruction of life and morals which is going on insidiously among men, women, and children as a result of the present proportions of the drink traffic.

The Health of Board School Children.

IN an address, a copy of which we have received, delivered at the Durham College of Science and entitled "Health in the School," Dr. THOMAS OLIVER has raised many points of general interest and has made some suggestions of practical utility. The subject is most conveniently divisible into two principal sections—the hygiene of the school, the board school or the national school as the case may be, and the health of its inmates. Under the former heading attention is directed to the marked improvement in arrangement and construction which distinguishes the board schools of recent origin from those built on the passing of the Elementary Education Act in 1870. Exception is taken, however, to schools of this class in general in respect of certain obvious defects. These include a frequent insufficiency of playing-ground around the building and the absence of definite and well-considered method in the internal arrangements for heating and ventilation. Both of these latter necessities have been provided for with the diversity of plan which belongs to an experimental epoch and, according to Dr. OLIVER, without conspicuous success. He draws attention to the fact that while each inmate in a factory is entitled to 250 cubic feet of air space the Education Department is content with a minimum of 80 cubic feet. He further insists upon the importance of removing impure air as essential to the proper aeration of class-rooms—a point which he shows has received too little attention. For this purpose he prefers the system of extraction by a revolving fan to every other method. The ingress of air he considers is best arranged where gratings in the vicinity of hot-water pipes are made to act as inlets. No form of heating apparatus commends itself to his judgment so much as the system of warming by hot-water pipes. Closely connected with the ventilation is the cleansing of class-rooms. Mere dry sweeping is insufficient for this purpose, inasmuch as it usually does little more than raise dust without disposing of it. Some useful hints on this subject have not been omitted.

Passing on to the physical condition of the children attending the free elementary schools, Dr. OLIVER discusses at considerable length the disorders common among children reared in poor and insanitary homes—such as general weakness, adenoids, cretinism, tuberculous glandular troubles, and ophthalmia—and the means appropriate to their prevention and cure. Most significant are his observations on the effects of over-pressure and fatigue. His views on this subject are quite in accordance with those of his fellow-countrymen, medical and non-medical, who have given their attention to it. He quotes, moreover, the experience of a German authority, Dr. KEMSIES, who finds that among his pupils the best work is done during the early days of each week and the early hours of each day. Two hours' work at one time suffice to induce fatigue and should therefore, he maintains, be followed by an interval of recreation. Another constant result of overwork in school is defective eyesight. The fact has long been recognised, but sufficient attention has not been given to its real significance. Dr. OLIVER'S own statistics on this subject are highly instructive. They show a notable excess of deficiency among girls as compared with boys, and among senior as compared with junior children. In 16 schools examined in Newcastle the average percentage of boys affected was 4·2, that of girls 6·3. This defect he attributes, and probably with justice, to imperfect lighting, over-pressure, and the teaching of fine needlework at too early an age. German observations provide exactly similar data. In addition, COHN of Breslau noted a marked excess of myopia among children attending town schools over that among village school-children. Dr. FERDINANDS of Aberdeen made the same observation after examining upwards of 3000 pupils. The facts seem to be uncontrovertible. They show clearly that a certain proportion of children in elementary schools, for the most part children of poor parents, have myopic or otherwise defective sight, that this deficiency increases with the duration of school life, and that it is most noticeable in town schools where the pressure of work is known to be highest and where the general health conditions are far inferior to those in country schools. Where are we to look for a remedy? Dr. OLIVER is in favour of instituting inspection by an ophthalmic surgeon in the case of such defective children. He admits, however, a probable difficulty in inducing the Board of Education to sanction the outlay. We see no reason why teachers should not be incidentally useful in this way. They might easily be instructed to note generally any evident defects of hearing or vision or obvious and specified failures of health. This done, parents could be warned to seek medical advice. The primary responsibility in such a case is with the parent and we consider that it is most judicious not to deprive him of it but to encourage him to use it. Such an arrangement, however, does not touch the subject of work-pressure, and this certainly ought to be lightened wherever it can be. A shortening of hours is, perhaps, not necessary, and if not needed it is not desirable. A redistribution, however, might be advantageous. At present school work is so distributed that it drags on through the greater part of a day. We are not at all clear that the work would not be better done and the interests of health be better served if the long midday break were dispensed with, if the school hours were grouped together with short intervals of recreation, and if the work were finished by, say two o'clock in the afternoon.

We have said nothing of the position of teachers from the medical standpoint, but they have not been overlooked by Dr. OLIVER in his address. The life prospect of a school-teacher is, on the whole, good and compares favourably with that of persons engaged in other callings. Minor troubles attributable to the harassing nature of the work done and to bad ventilation and long standing are, however, prevalent. In consideration of these and on other and general grounds the plea for seats for teachers and the suggestion that no one of their number should be employed for more than a limited time in close and unhealthy neighbourhoods have our cordial approval.

Malaria in the Pacific Islands.

As we are frequently reminded, both in and out of season, some portion of the British Empire has its face ever turned towards the source of light. But we hear less frequently of the responsibilities which his fact entails in the direction

of scientific research. We possess unique facilities for the acquisition of scientific knowledge in every latitude and longitude, but pecuniary grants for scientific investigation do not figure largely in our Estimates, and the Government Bench is rarely or never harassed by questions upon the subject. There are, however, indications that a broader spirit is about to prevail—a change that is in no small degree due to the support, both moral and substantial, which the Colonial Office under Mr. CHAMBERLAIN has extended to the study of tropical diseases. In the investigation of malaria enormous strides have been made of late, but there are numerous problems still outstanding upon the solution of which the practical application of recent discoveries largely depends. Malaria undermines the health and comfort of millions of HIS MAJESTY'S subjects and further investigation may reasonably expect to receive the support of governments, of societies, and of wealthy individuals.

Dr. PATRICK MANSON has recently proposed to the Epidemiological Society of London that an expedition might well be despatched to the Pacific Islands to investigate the causes which make for the apparently capricious distribution of malaria. The presence or absence of malarial disease in any given locality depends, Dr. MANSON suggests, upon the presence or absence of its subserving mosquitoes, such presence or absence being determined by the existence of special conditions inimical to special species of mosquitoes. By way of throwing light upon this suggestion it is proposed that an expedition should be despatched to one of the Pacific Islands, as Samoa, in which malaria is at present absent. Here the investigators would set themselves to study the local mosquito, and having obtained full knowledge of its habits they would proceed to investigate the mosquito of an island in which malaria is endemic. They are then to convey the anopheles from the malarial to the non-malarial island and to endeavour there to breed the anopheles under laboratory conditions. In the aquarium thus formed there would be introduced certain plants and animals which are apparently peculiar to Samoa with the view to discover, in one or another of these, something antagonistic to the anopheles. The experiment would then be repeated under conditions as nearly natural as might be possible. Dr. MANSON hopes that by this means there may be discovered a something which is hostile to the anopheles, and which may be subsequently turned to good account by being introduced into islands and localities where malaria is endemic. The Pacific Islands are suggested by Dr. MANSON from the fact that they also afford unique opportunities for the study of filariasis and elephantiasis. In many of the islands this latter disease attacks from 20 to 50 per cent. of the population, and in others filariasis attacks from 30 to 60 per cent. But there are also small islands with populations of from 200 to 300 in which elephantiasis is alleged not to exist, while there are other islands, equally small in population, where almost every individual is affected. The vast importance of ascertaining the distribution and habits of certain species of mosquitoes has been brought home to us during the last few days by a very remarkable paper which was read at the Pan-American Congress at Havana. At this Congress, according to our New York correspondent, Surgeon WALTER REED and Assistant-Surgeons CARROLL and AGROMONTE have recorded the manner in which they claim to have proved that the mosquito belonging to the species *culex fasciatus* which abounds in Cuba is the agent instrumental in conveying yellow fever from man to man. With a heroism worthy of the cause of truth, the same spirit which animated WALTER MYERS and led to his untimely death, persons submitted themselves to be bitten by mosquitoes which had been nourished upon the blood of yellow fever patients, with the result that they were themselves attacked by the disease. Other willing subjects exposed themselves to infection from presumably infected fomites, but in spite of every effort being made to cause the clothes, &c., to act as infecting agents no success attended the efforts. The inference is that yellow fever is not thus communicated from person to person. On the dangers of such methods of investigation we need not enlarge, while the results of practical observations of this sort may be immense and culminate in the alleviation of much human suffering.

Dr. MANSON'S proposals seem well worthy of support, and even if the specific problems to which he alluded were not solved much valuable and helpful information would doubtless be forthcoming from a scientific expedition to the Pacific Islands. The members of the Epidemiological Society have, it is gratifying to learn, accepted the proposal of their President, and efforts are being made by an appeal to the Foreign Office and to the Colonial Office, to the Local Government Board, and to the more important corporations and City companies, to obtain the £2000 necessary to support the expedition. Already a generous and anonymous subscriber has promised £500 towards the scheme, and it is much to be hoped that the enterprise will not fail from lack of subsidy. As Dr. MANSON remarked in his address, "It will be strange if in a country which provides liberally for what might be called sentimental expeditions—such as the discovery of the North Pole, or for settling mere geological points of not very great practical importance, such as the determining of the process by which coral islands acquired their peculiar conformation,—it will be strange if in such a country funds cannot be provided to attempt, in the way I suggest or otherwise, the settlement of important questions affecting the life and comfort of men and the material prosperity of the country." We cordially endorse Dr. MANSON'S expression of opinion and we trust that the necessary funds will speedily be forthcoming.

Annotations.

"Ne quid nimis."

THE DINNER OF THE HUNTERIAN SOCIETY: SIR WILLIAM MACCORMAC'S SPEECH.

THE eighty-second anniversary dinner of the Hunterian Society was held on March 15th, and the event of the evening was a vigorous speech from Sir William Mac Cormac, who dealt with the efforts that have been made to cast doubt upon the sincerity of his publicly-expressed opinions on the conduct of the Royal Army Medical Corps in South Africa. According to Sir William Mac Cormac, he and Mr. Frederick Treves did

not attach much importance to the criticism which had been levelled at their utterances as their critics were without any proper conception of the requirements of war. He himself had all along adhered to the opinion that the action of the Royal Army Medical Corps had been extraordinarily good, and they had now come forth from the inquiry with the consciousness that despite circumstances of extreme difficulty and great stress there had been no scandal and no serious shortcomings. Never before in the history of the country had there been a war of the kind and on no previous occasion had the army medical service been subjected to such strain and hardship. Considering how few the Royal Army Medical Corps were in point of numbers he considered that they had done extremely well. They were only 800 strong instead of 1200 as they should have been, but they had fulfilled all requirements notwithstanding the fact that they were intended only to serve two army corps and had to do duty for six. No one could dispute that it was a matter for sincere congratulation that the medical men had performed this remarkable feat without a complete breakdown. He regretted to say that it had been suggested in certain quarters that the officers of the corps had failed in the discharge of their duty. It was very hard that these men should be deprived of the sympathy of those in authority when they had done their very best under the most adverse circumstances, in many instances suffering death not merely in action but in the daily discharge of duty. The Royal Army Medical Corps might be swept away altogether, or it might be retained, when it must be placed on a much better footing than it was now and the officers must be raised to a higher status. The head of the Army Medical Service was not accorded the high position which he certainly ought to occupy and which in other countries such an officer did occupy. From his own personal knowledge he knew that the chief of the German Army Medical Corps held a very different position to that granted to the officer of corresponding rank in the British army. In Germany the chief of the Army Medical Corps was respected and his word was law, whereas in this country the position of the Director-General of the Army Medical Service was quite a subordinate one, and not only was this the case in regard to his pay but it was also the fact in respect to his status. If the country wished to have a proper army medical service it must be accorded a certain amount of sympathy and it must have its proper status and suitable pay. Sir William Mac Cormac concluded his remarkable vindication of the over-worked and maligned medical officers at the seat of war by pointing out that it was not the first time that he had had actual experience of war and that he could affirm that he had never seen sick and wounded men better cared for than in the present campaign. That conclusion was endorsed by the report of the Royal Commission instituted to inquire into the matter.

A JUDGE UPON THE HOUSING OF THE WORKING CLASSES.

MR. JUSTICE GRANTHAM, who has, we are sorry to learn, been indisposed while on circuit, has relieved the monotony of life in the judge's lodgings at Lewes by writing to the *Times* on the problem of the housing of the London poor. His remedy is of the rough-and-ready order, and if he has meditated profoundly on the means of carrying it out he has not made them public. He believes that London should be a mart rather than a manufactory of merchandise, and that if the manufacturing element were eliminated the difficulty would be at an end. He says, to quote his own words, "Drive out all manufactories and their workpeople into suitable places by the river and elsewhere, and the spaces left will enable you to house most of the workpeople necessary for carrying on the business of a commercial and residential town." Amongst other instances of manufactures carried on in London which might be carried on either just beyond its limits or still further off he mentions certain gasworks and the manufactories of Messrs. Maple, Messrs. Shoolbred, and Messrs. Doulton. Who are to carry out the work of expulsion he does not suggest. Presumably Parliament, as it would certainly exceed the powers of the County Council. As to how London would reconcile itself to the measure he does not speculate, nor does he mention that as manufacturers must almost necessarily carry on their work where it pays them best to do so they will need substantial compensation for such disturbance, while the removal of the big manufacturers and their workpeople would create space by removing highly rated buildings and the prosperous artisans who, though they need better housing, are not accountable for the worst part of London's over-crowding. If Mr. Justice Grantham were a fairy with a wand to carry out his own reform, and we could wake up to find London a Utopia devoted only to residence and the distribution of articles manufactured elsewhere, we should find London considerably diminished in importance. It would offer a less substantial objective to an enemy's attack in the event of war with a European Power, but it would lose its tremendous and pre-eminent position in the world in time of peace. At the same time all suggestions for solving the housing problem are interesting, and that of Mr. Justice Grantham has originality to recommend it, while it cannot be said to be of the tinkering order. If carried out it would at least effect its object, and it may contain the germ of a less drastic but more practicable measure.

THE WRONG MEDICINE AND ITS RESULTS.

AN action recently brought with success against a firm of druggists at Glasgow illustrates the dangers which may arise where the business of dispensing drugs is not carried out with the greatest possible care in all its departments. The pursuer, or to use the terminology of our own courts, the plaintiff, a commission-agent in the boot trade, took two prescriptions to the defendants' shop to be made up, one for a potion and the other for an ointment. Later in the day he sent a messenger to fetch them, and on the lad returning with one bottle only sent him again to ask for the ointment and the prescriptions. The druggists seem to have said that they had no ointment and no prescriptions to deliver, and the request for these, which was repeated a second time, does not seem to have excited any anxiety in their minds as to a possible mistake. On the other hand, the customer seems to have assumed that the bottle he had received contained an instalment, at all events, of what he had ordered, for he took some of the mixture, merely tearing off enough of the paper wrapper to enable him to extract the cork. Had he torn off more he would have found an ordinary blue-glass fluted bottle such as is used for poisons, with a label informing him that it contained "Poison Not to be Taken," and further that it was intended for a Mrs. Robinson, he being Mr. Robertson. A confusion between the two names had no doubt led to the initial error of the wrong parcel being handed over the counter and up to this point the mistake of the druggists, though serious and avoidable, was one which might occur in such circumstances without there being great negligence on their part. Their subsequent behaviour, however, cannot be defended. Mr. Robertson went at once to the shop and asked if that which he had drunk and which had irritated his throat considerably had been that which he was intended to drink. The error was then discovered, but the course adopted by those to whom he made his complaint was not calculated to mitigate the danger which had arisen. Being aware of the

contents of the bottle intended for Mrs. Robinson, the defendants' assistant knew that Mr. Robertson had swallowed a mixture containing chloroform, belladonna, and aconite. He appears to have inferred that the quantity taken was small, mainly from Mr. Robertson being still alive; and instead of sending for a medical man without delay the assistant was content with administering an emollient and some jujubes to allay the burning sensations of the throat. Mr. Robertson, temporarily relieved and reassured, went home to Pollokshields, but became very ill by the time he reached his house. He was then medically attended, with the result that he ultimately recovered, but only after he had been away from his business for several weeks. In defending the action brought against them the druggists made the most of the conduct of the plaintiff in not unwrapping the bottle sent to him and discovering that he had received a parcel that was not meant for him, but the jury found against them with £700 damages. This is a large sum, and if the firm were being fined simply as the result of an assistant handing the wrong parcel to a possibly inarticulate boy we might consider it too large. But the Lord Justice-Clerk, in his summing-up, took a view, with which we agree, that the defendants, or their assistants, for whose carelessness they are answerable, had two opportunities of correcting their mistake and would not avail themselves of them. When the plaintiff sent to ask for his prescriptions and his ointment they ought to have suspected an error, while they had a further chance of minimising the result of their previous lapse when the victim visited their shop and stated that he had drunk what might or might not have been a fatal dose of a poisonous compound. With the greatest care and with constant supervision it is difficult to eliminate mistakes from the conduct of any business, but in the dispensing of drugs, in which a mistake may lead to terrible and tragic consequences, all concerned should be eternally on the alert to detect the possibility of accident. The plaintiff is not likely to drink medicine again without taking the precaution of unwrapping the bottle, and the fact that out of his contributory carelessness came £700 damages will not serve to conceal the fact that he came within an ace of death. The most reckless patient should be aware that the amount of the dose to be taken is of importance and that the label on the bottle usually gives directions upon the subject which he should study and obey. Had Mr. Robertson done this he would have been spared an experience which may have been dear even at £700.

THE ELIMINATION OF ARSENIC THROUGH THE HAIR.

WE publish an original article this week in which the authors—Mr. Edmund Knecht, Ph.D., F.I.C., and Mr. W. F. Dearden, M.R.C.S. Eng., L.R.C.P. Lond.—show conclusively that arsenic occurs in easily detectable quantity in the hair of persons who have been taking the drug either medicinally or accidentally as in the case of beer. The observation is of the utmost importance in affording a decided aid to the diagnosis of arsenical poisoning. As Mr. Knecht and Mr. Dearden point out, M. Gautier of Paris, in discussing the part played by arsenic in the animal organism, referred to the function normally exercised by hair as a means of eliminating arsenic from the system. Other workers have also referred to the fact of arsenic having been detected in the hair. Dr. J. Reid of Redhill, for example, writes to us in a letter dated Jan. 12th, 1901, expressing his surprise that no complete necropsy has been made in connexion with the beer-poisoning epidemic, although he points out that in the case of a rabbit suffering from chronic arsenical poisoning he has seen the liver fatty in one lobe, the fatty portion being marked out from the sound portion by a straight vertical line. But incidentally he describes an easy and rapid test for arsenic, recommending for the purpose the examination of the hair by means of an ammonia copper solution containing an excess of the precipitated copper oxide. In patients taking small doses the medulla of the hair will remain unchanged so far as half an inch objective is concerned, but when viewed by one-sixth inch objective the small green particles of arsenite of copper are seen appearing as green granules without definite shape or form. Dr. Reid was thus led to think that this simple test might prove useful forensically. His observations are now completely confirmed by Mr. Knecht and Mr. Dearden, who, however, have successfully employed not only a method of detection, but a method of estimation. Thus in healthy patients the quantity of arsenic found was too minute to be estimated in one gramme of substance, but in a patient who was taking the drug medicinally the hair was found to contain arsenic in the proportion of 0·3 in 10,000. One of the patients who had been drinking arsenical beer had present in his hair the same proportion of arsenic, whilst another showed as much as one part of arsenic in 10,000. The method employed for the estimation of arsenic consisted in first destroying the hair by fuming nitric acid, then dissipating the excess of nitric acid, after which the product is transferred to the Marsh apparatus. The fate of arsenic in the economy is thus shown to enter a new and interesting phase. It would be of great importance and interest to determine whether when arsenic is administered as an organic combination, such as cacodyl, the drug is eliminated in the same way. It was, no doubt, the instructive study of organo-arsenic derivatives by M. Gautier which led him to refer to the function normally exercised by hair as a means of eliminating this element from the system. There is abundant evidence now to show that the fate of arsenic in the body is partly in the hair, and this fact cannot but be of the utmost importance in medicine, especially in toxicology.

THE PREVENTION OF TUBERCULOSIS.

As a result of the deputation from the Society for the Prevention and Cure of Consumption in the county of Durham, the Sunderland Town Council on March 13th passed the following recommendations of the Health Committee:—

That a fee of 2*s*. 6*d*. be paid to medical practitioners in the borough who notify to the Health Office those cases of consumption of the lungs in the borough in which there is expectoration or discharge containing tubercle bacilli, such fee only to be paid once in the case of each patient. This arrangement to be in force for one year on trial.

That the council enter into a contract for one year, from the beginning of May next, with the Society for the Prevention and Cure of Consumption in the county of Durham for the use of two beds in the county sanatorium at Stanhope by the payment of £75 per bed for that period. Such beds to be reserved for the sole use of poor patients from this borough in the early stages of the disease.

Alderman Harrison, the chairman of the Health Committee, remarked that if they got early information of the existence of the disease at any place the officers would endeavour to prevent its spread by attending to the surroundings of the house and making them unfavourable for its development. When they got into a system of compulsory notification of cases of consumption they would go a step further in the prevention of the spread of the disease. He declared that the open-air cure had passed the experimental stage and was now a success. By a notice placed inside the electric tramcars persons have been earnestly requested not to spit in or on the cars in Sunderland, and for some years past the corporation have had suspected sputum gratuitously tested for tubercle bacilli, have offered the free disinfection of the rooms of consumptives, have distributed

leaflets on the prevention of consumption, and have also granted certificates to dairy farmers who keep sanitary byres and all of whose cows have been proved free from tuberculosis under the tuberculin test.

CHILDREN AND THE DRINK TRADE.

THOSE who wish to study the question of the injury inflicted by the drink traffic on the child-life of the nation would do well to possess themselves of a pamphlet on the subject published by Mr. Brimley Johnson at 3, York-buildings, Adelphi, W.C. The preface is written by the Archbishop of Canterbury. The book contains some startling facts bearing on child-drunkenness and alcoholic diseases in children. The third part deals with the prohibition of sale to children and is worthy of special study in connexion with the introduction of a Bill in Parliament for this purpose. The practice of other countries is quoted and the reader is left with the impression that sixteen years is the lowest age at which children should be allowed to buy drink. The principle of parental authority has not been allowed absolute sway in our legislation where the vital and moral interests of the child are at stake, and all allow that they are terribly at stake in this question. Much of the injury to children through alcohol comes from ignorance, as when a mother gives beer and gin to her child while taking the same herself. There is an element of unselfishness in the habit of giving the child "a drop," but thoughtlessness and ignorance sadly predominate. The large majority by which the second reading of the Bill was carried on Wednesday is a clear proof, for the guidance of the Government, as to the feeling of all parties on this subject.

THE SIEGE OF THE LEGATIONS AT PEKING: A FRENCH SURGEON'S WORK AND VIEWS.

SURGEON-MAJOR MATIGNON of the French army, who volunteered for duty at Peking when the situation became grave, has a short paper in the *Archives de Médecine et de Pharmacie Militaires* for March describing his experiences during the siege last summer. "The events that took place at Peking from June 20th to August 15th, 1900, have this peculiarity," he says in his exordium, "that a handful of men were taken by surprise when destitute of everything, or pretty nearly so, and found themselves compelled to organise a defensible front with a perimeter of three and a half kilometres against a well-armed and well-victualled enemy 30 times as numerous as they were. A few French, German, English, American, Austrian, Italian, Japanese, and Russian sailors formed a little body of 400 rifles, to whom 50 volunteers of all nationalities joined themselves." When the Boxers made their unexpected onslaught the British Legation became a refuge-general where 800 Europeans—150 of them being women and children—sought shelter. It was here that a small hospital was improvised and to it the wounded from the outposts by which the legation was covered were carried. These outposts, three in number, were established (1) to the south-east in the French and German Legations; (2) to the north-east in a large park, where the defenders were the Japanese and the Italians; and (3) to the south-west in the Russian and American Legations. Surgeon-Major Matignon had charge of the first, being assisted by a German hospital orderly who "thoroughly understood his work and was in possession of a dressing-bag." Throughout the siege, notwithstanding the necessarily defective hygienic arrangements, the bad quality of the water, of which the men, owing to the excessive heat, were forced to drink enormous quantities unfiltered and unboiled, and an almost entirely flesh diet (for 55 days horse meat was alone available), the little garrison of 90 men all told had no sick. The enemy's efforts were for the most part expended upon four chief points, and to these whenever an attack commenced Surgeon-Major Matignon used to hurry with his game-bag full of surgical necessaries. The French and Austrian detachments having arrived without any medical *personnel* he had absolutely no one to help him on these occasions, but was compelled to do everything with his own hands. As soon as a man was wounded he dressed him on the spot as well as he could and sent him back to his work. Their numbers were too small to admit of the ranks being even temporarily depleted, but Surgeon-Major Matignon adds that "not one of them [the wounded], even those who were seriously injured about the head, made the slightest difficulty about resuming his service." The Chinese kept up an incessant shower of missiles of every description from shells and rifle bullets down to bricks and stones. Upwards of 800 shells were aimed at the French Legation, of which the eastern side was literally pulverised. The defenders exercised the utmost caution, protecting themselves behind barricades and in trenches, but in spite of this they suffered severely. As might be expected most of the injuries were situated about the head or upper extremities. The following table, which was drawn up by Surgeon-Major Matignon with the help of Dr. Velde of the German Legation, gives some very interesting information.

Killed and Wounded at Peking, June—August, 1900.

Nationality.	Strength.		Killed.		Wounded.		Percentage.	
	Officers.	Men.	Officers.	Men.	Officers.	Men.	Killed.	Wounded.
German...	1	50	—	12	—	15	23·5	31·4
American	3	53	—	7	2	8	12·5	17·8
English...	3	79	1	2	2	8	3·7	24·4
Austrian	5	30	1	3	4	8	11·4	34·2
French	4	45	2	10	3	30	24·4	67·3
Italian	1	28	—	7	1	11	24·1	41·4
Japanese	3	24	—	5	1	21	18·5	81·4
Russian...	1	79	—	4	1	18	4·9	23·9
Volunteers	—	50	—	11	—	22	22·0	44·0

The technical part of the paper is full of interest and should be read *in extenso*. Some of the cases described are remarkable. In conclusion the author of the paper considers the following circumstance sufficiently curious to deserve mention. Out of 22 officers of all nationalities who took part in the defence there were 19 combatants and 3 medical non-combatants. In the first category 14 were wounded, the percentage being 73·6. The proportion is extremely high, but amongst the non-combatants it was higher still, equalling cent. per cent., inasmuch as each of the trio received a wound.

THE IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE St. Patrick's festival dinner of the Irish Medical Schools' and Graduates' Association was held on March 16th at the Hotel Cecil, Dr. William Alexander being in the chair. The interesting incident of the evening was the first presentation of the Arnott medal which has been founded by Mr. D. Arnott in memory of his father the late Sir John Arnott, whose name is well known in connexion with the promotion of Irish industries. The medal is to be given annually to an Irish graduate or diplomate in medicine who has specially distinguished himself in the field or in medical science. The first recipient of the medal, Captain Charles Dalton, R.A.M.C., was presented to the president of the association by Dr. T. Gilbart Smith, who stated that the honour was conferred in recognition of his gallantry and distinguished

services, particularly during the operations on the Tugela river, where on Jan. 23rd, 1900, he was dangerously wounded in the abdomen whilst attending a wounded officer under heavy fire; he was mentioned in despatches by Lord Roberts. The toast of "Our Defenders" was proposed by Dr. H. Macnaughton Jones, and was responded to by Inspector-General W. H. Lloyd, R.N., Captain Dalton, R.A.M.C., and Surgeon-Major W. Moyle O'Connor. Sir William Mac Cormac gave the toast of "Our Guests," which was replied to by Colonel Gallwey. The number of guests amounted to over 150, and the excellent singing between the speeches was much appreciated. Mr. P. J. Freyer and Dr. J. H. Swanton were heartily congratulated on the success of their efforts in organising the dinner.

MEMORIAL TO THE LATE PROFESSOR TOM JONES.

THE fund which is being raised by friends of the late Professor Tom Jones to establish a memorial to him in the Owens College has now reached nearly £850. We are sure that it will be gratifying to many who valued the late professor's character and work that such a satisfactory proof of the esteem in which he was held has been shown by the contributors of this considerable sum. We are asked to state that it is intended to close the fund on March 25th and that a meeting of subscribers will be called shortly afterwards. Subscriptions may be sent to the honorary treasurer, Mr. G. A. Wright, 16, St. John-street, Manchester, or to one of the honorary secretaries. Mr. J. E. Platt, 14, St. John-street, Manchester, and Dr. F. J. H. Coutts, Cromar, Plymouth-grove, Manchester.

TRAUMATIC HERPES ZOSTER.

HERPES zoster from injury of a nerve trunk is rare. It occurs especially after wounds such as are produced by a cutting instrument or a fractured bone, and after amputations it may appear on the stump. Herpes zoster from simple contusions or lesions of the terminal nerve filaments is still rarer. At the meeting of the Société Médicale des Hôpitaux of Paris on Feb. 22nd Professor E. Gaucher and M. Henry Bernard communicated an interesting paper on this subject. They first referred to some recorded cases. Herpes zoster has been observed on the right eyelids and cheek after a blow. In two cases the eruption has followed a fall during gymnastic exercises. In another case a woman missed her footing and this caused extreme flexion of the lumbar region. Lumbo-abdominal herpes appeared on the side towards which the body was flexed. We may add that herpes zoster after lumbar sprain has also been observed by Besnier and by Didier.[1] An example of herpes produced by lesions of a terminal nerve filament is a case in which, after tooth extraction, zona of the forehead, the eyelids, and the cheek appeared on the same side. In two cases zona followed the taking of a very hot bath. M. Gaucher and M. Bernard related the following three cases which were observed by themselves. A man, aged 46 years, received a blow on the left side of the nose and on the left cheek. Immediately he commenced to feel pain in the whole of the left side of the head, principally in the temporal region. 48 hours later he sought advice for an eruption which had appeared at the injured spot. On the left ala nasi and the adjacent part of the cheek there was diffuse erythema covered with little vesicles, of which some were whitish and others were surmounted with a brown crust. There were similar crusts in the left nostril. The left anterior pillar of the fauces was redder than was the right and it was dotted with little whitish vesicles. There was no fever. The headache, which was entirely localised on the left side, still persisted. There were no "painful points" of facial neuralgia nor was there any sensory trouble, except slight hyperæsthesia in the position of the eruption. Under rest and a simple protective dressing the vesicles rapidly dried up, but the headache persisted for several days. In the second case a child, aged three years, superficially wounded himself with a toy below the left lower eyelid. Two days later a group of herpetiform vesicles appeared on the chin on the same side. In the third case a man received a contusion of the left flank. On the same day a vesicular eruption in the form of a girdle, occupying the left lumbo-abdominal region and presenting all the characters of zona, supervened. It formed an oblique band extending from the spine to the median line in front and was accompanied by acute pain. The time of appearance of zona after an injury is very variable. Sometimes it appears almost immediately (in an hour in one case); sometimes after a long interval (three years in a case described by Charcot). In the latter circumstance probably zona the result of a general infection develops on a *locus minoris resistentiæ* created by the injury, or the zona is symptomatic of slow nerve degeneration. The localisation of the eruption in relation to the injury is of interest. In some cases the zona is localised exactly on the injured region, primarily at any rate; secondarily, vesicles may appear on adjacent parts innervated by branches from the same trunk as the injured ones. In other cases the injured region is unaffected and the eruption appears on an adjacent region in the same area of innervation: either a lesion of a nerve trunk is followed by zona in its area of distribution or a lesion of terminal branches is followed by zona in the area of distribution of other terminal branches.

[1] Journal de Maladies Cutanés et Syphilitiques, January, 1897.

HOSPITAL TREATMENT OF COLLIERY CASES.

AT a meeting of the general committee of the Coventry and Warwickshire Hospital on March 13th the house surgeon (Dr. F. H. Day) called the attention of the house committee to the following matter. On Feb. 26th a lad named Ward was admitted to the institution from Wyken Colliery with a crushed hand. Afterwards the colliery people sent to Dr. E. N. Nason of Nuneaton asking him to go to the hospital and to examine the patient's hand. He telephoned to Dr. Day, who explained the condition of the injury, whereupon Dr. Nason declined to attend and he informed the colliery managers that the patient would have all needed attention at the hospital. It was stated that Dr. D. Crowe, another medical man in the district, was also communicated with on the subject and that he went to the institution, the patient being told to refuse to have anything done to his hand till he had been seen by Dr. Crowe. Dr. Day complained to his committee that it would be impossible to carry on the work of the hospital under these conditions, but that if a consultation was necessary in any case the usual staff could be called in. A house surgeon could not be hampered by having to submit to other medical men coming in from various parts of the county. The house committee thereupon instructed the secretary to write to the manager of the Wyken Colliery informing him that all cases sent to the hospital were treated by the medical staff and that it was neither desirable nor just that they should be expected to meet in consultation medical men from other towns in no way connected with the hospital; also that the mere fact of a case being sent to the hospital was an assumption on the part of those who sent it that they were satisfied with the competence of the medical staff. In reply to this letter the colliery manager (Mr. Liddell) offered an apology for the course which had been taken and explained that the sole object was to get a report of the nature of the injuries of the patient, such report being necessary. He did not doubt

the efficiency of the hospital staff. With the reading of this letter from Mr. Liddell the matter dropped. We trust that this is not the usual way in which collieries deal with the medical treatment of their workers. It is perfectly monstrous to suppose that the medical officer of a hospital will submit to have his diagnosis called in question by any practitioner whom an outside authority may choose to send. If Mr. Liddell wished to have a report upon the condition of the pitman's hand his proper course would have been to write to the house surgeon of the hospital asking for a report and inclosing the usual fee to be paid either to the house surgeon or the hospital according to the rules of the institution. If he was not satisfied with the report of the house surgeon he would have been quite within his rights in asking for another opinion from one of the visiting staff. However, he seems to have seen the error of his ways, and we hope that such an incident will not occur again.

THE EFFECTS OF DUM-DUM BULLETS.

A STRIKING instance of the very severe effects of Dum-dum bullets when fired at only a short distance was afforded by the suicide recently of a private in the Scots Guards. The newspaper reports are not very full, but sufficient can be gathered to show the extraordinary results produced. The man placed the muzzle of the rifle in his mouth and pressed the trigger with his foot. Some of the effects must doubtlessly be attributed to the action of the gases liberated from the cordite, for they were set free in large volumes and had to escape either by the mouth or through the channel formed by the projectile. The bullet was a soft-nosed or Dum-dum, and it passed through the hard palate, the base and vault of the skull, then through a cloth cap, and struck the ceiling. It had spread out or "mushroomed" and had lost its nickel sheath. The man's head was enormously swollen, many of the bones being broken and nearly all of the sutures opened. This was due to what has been called the "explosive" action of these high-velocity bullets; the contents of the skull acting as a liquid, the effect of the increased pressure due to the entry of the bullet is transmitted equally in every direction. The only wound in the skin was a vertical one at the back of the head more than nine inches long with sharply-cut edges. Most of the brain substance and many pieces of the skull bones were driven through this wound and scattered about the room. The injuries were remarkably severe, much more so than those resulting from the firing of a Martini-Henry rifle in a similar position, for in the case of similar suicides with that rifle the bones were merely perforated.

TYPHOID FEVER IN THE CITY OF YORK.

ON Nov. 17th the Local Government Board wrote to the town clerk of York that they had observed that 10 deaths from fever were reported to the Registrar-General as occurring during the quarter ending Sept. 30th in the registration sub-district of Micklegate. The Board therefore requested the town council to instruct their medical officer to prepare a report upon the prevalence of fever in the borough. This report, drawn up by Dr. E. M. Smith, medical officer of health of York, now lies before us. The report states that during the year 1900 244 cases of typhoid fever were reported to Dr. Smith as occurring in the sanitary district of the city of York. Of these 38 patients died—14 in hospital and 24 at their own homes. The death-rate from typhoid fever for the year was therefore 15·5 per cent. of the cases notified. During the first half of the year there were 23 cases with four deaths; during the second half of the year there were 221 cases with 34 deaths. As regards age-distribution, in 19 cases with two deaths the patients were under five years of age; 89 cases occurred in persons between five and 15 years of age, of whom five died; 52 cases in persons between 15 and 25 years of age, of whom 11 died; and 82 in persons between 25 and 65 years of age, of whom 19 died. Of the total number of cases 17 of the patients apparently contracted the disease outside the city. The unusual prevalence of typhoid fever during the second half of the year is attributed by Dr. Smith to the very dry spring and the very hot periods of the summer, which fostered and developed the evils attaching to the increasing number of specifically infected midden privies. During the first half of the year 23 cases occurred in 21 houses, and of these 21 houses 11 were associated with the existence of foul privies, and 10 with water-closets of which seven had defective drains. During the second half of the year 221 cases occurred in 171 houses, 97 of which had midden privies and 74 had water-closets. In the former there occurred 124 cases of typhoid fever, 27 of which were secondary and five of which had contracted the disease outside York. The large majority of the midden privies were more or less foul or leaking. In the 74 water-closet houses there were 97 cases, but deducting those houses where no sanitary defect was observed, so that probably the patients contracted the disease elsewhere, and those cases which were known to have become infected elsewhere, there remain 57 water-closet houses to consider. Of these 27 had defects of drainage, 16 were decidedly dirty, and 10, although not having defective drainage, were associated with polluted soil. In 15 water-closet houses only could no clue be found to the probable or possible origin of the disease. Dr. Smith states that taking the whole of the cases into consideration he finds that the majority were associated with midden privies most of which were foul or leaking. The water-supply, the milk-supply, and the consumption of oysters and ice-cream are stated to have had no connexion with the outbreak. Dr. Smith's chief recommendation is the abolition of all midden privies and the substitution of water-closets or dry ash receptacles. The report is very interesting from the large proportion of cases occurring in persons under 15 years of age, there being 108 such, with seven deaths, a case-mortality of 6·4 per cent.

APHASIA WITH LETTER-BLINDNESS BUT WITHOUT WORD-BLINDNESS.

DR. GUY HINSDALE of Philadelphia has published in the *Journal of the American Medical Association* of March 2nd an interesting case of aphasia with letter-blindness but not word-blindness which possesses a somewhat exceptional value in that the patient was a physician belonging to a well-known institution. The patient was a man, 35 years of age, the subject of pulmonary phthisis, probably of about four years' duration. On Jan. 2nd, 1899, he had a sudden attack of paralysis involving the right face, arm, and leg, with almost total loss of speech. During the first 24 hours he could only speak the word "no." On the next day he could utter four words, could move his right arm, and had good control of the facial movements. He regained power steadily after this. On the ninth day he walked to the sitting-room and insisted on helping himself to tobacco and a glass of wine. On the eleventh day he was able to write his name for the first time and his vocabulary was steadily increasing. When shown a silver pencil he could not name it; when asked if it was a knife he said "No." "A pencil?" "No." "Something to write with?" "Yes." On the nineteenth day he was shown a silver dollar, but could not say what it was. "Is it a watch?" "No." "Is it a wheel?" "No." "Is it a piece of iron?" "No." "Is it a dollar?" "Yes, it is a dollar." He was given a few coins; he added them in a properly written column with the total value correct. He mispronounced some words and used

words incorrectly in a sentence. For example, he said "the quiet was," instead of the reason was; "glass of ice-water," for a pair of scissors; "spade," for paper; and "put those groups afay for me," for put those grapes away for me—paraphasia. He had letter-blindness but not word-blindness. When shown the alphabet he counted "One, two, three," instead of A, B, C. When shown the words "boy" and "child" he instantly pronounced them. He read the daily papers regularly and read McMaster's "History of the United States" and enjoyed it. Dr. Hinsdale points out that the letter-blindness is a most interesting and unusual feature. There may be word-blindness without letter-blindness, or *vice versâ*. If by disease affecting the brain the visual word-centre is completely destroyed, or if it is completely cut off from the primary visual perceptive centre in the occipital lobe, then the patient is both word-blind and letter-blind. But if the destruction is only partial and that part of the centre in which are stored the visual memories of letters remains intact, then the patient, though still able to recognise the individual letters by sight, will no longer be able to recognise and interpret words, because he has lost the visual memories for words which he had acquired by years of laborious effort. In the present case the clinical evidence points to hæmorrhage or embolism of the left Sylvian artery resulting in hemiplegia and aphasia. The visual word-centre is supplied by a branch of the Sylvian artery, and it is probable that an embolus lodged in this branch or in one of its twigs produced a partial softening and destruction of a part of this centre. The hemiplegia was recovered from, but the aphasia persisted at the end of nearly 18 months, to the annoyance of the man, whose living as a physician depended upon the free exercise of his highest intellectual functions. He shortly afterwards died from phthisis.

CARBONATED BOTTLED BEER.

MUCH of the bottled beer on the market is undoubtedly carbonated; that is to say, its sparkling quality depends not upon the gas generated in the beer itself by normal fermentation but upon artificial gas forced into the liquid in the same way as soda water is made. With a little experience it is not difficult to distinguish beer so charged artificially from beer charged with its own gas and developed in the liquid by fermentation. There are reasons why this artificial recourse should be discouraged, and, to start with, beer thus artificially charged with carbonic acid gas is, there is reason to think, dietetically inferior to beer charged with its own natural gas. Beer does not "assimilate" forced gas in the same way as when the gas is generated within the liquid, neither has carbonated beer the smoothness on the palate of normally sparkling beer and it soon becomes flat and stale. Indeed, it is probable that unsound and vapid beer may be passed off as a sound article by being forcibly charged with foreign carbonic acid gas and the practice is on this account objectionable. The sparkling quality of champagne is derived, of course, from the fermentation of the "liqueur" which is placed in it prior to the final corking in bottle. The gas is generated within the liquid and imparts to it a pleasant, attractive, and wholesome effervescent quality. On account of the gas being generated within the liquid it is retained in, so to speak, a nascent state and is therefore gradually disengaged on removal of the cork. The effervescence thus lasts for a considerable time. Champagne if it becomes flat cannot be made to resume its pleasant sparkling quality to the same degree by forcing gas into it. Yet another example occurs in the case of so-called "stone" ginger-beer which sparkles with carbonic acid gas generated by the fermentation of the liquid. For this reason it is probable that "stone" ginger-beer is generally preferred—as it is more palatable and wholesome—to ginger-beer prepared by carbonating a sugary infusion of ginger. The advantages of a natural mineral water, again, as opposed to the artificial mineral water are well known. The gas in a natural water is undoubtedly in some combined form which is not quite understood. At any rate, naturally impregnated waters are softer and smoother on the palate than artificially carbonated waters, while the former yield up their gas more slowly and in more minute bubbles than does the latter. Similar advantages are obtained in the case of beer which effervesces with the carbonic acid gas normally developed in the liquid by fermentation. For dietetic purposes such beer is much to be preferred to beer into which carbonic acid gas is artificially forced. By the way, it is not, we fancy, generally known that bottled beer was accidentally discovered by Alexander Nowell, head master of Westminster School, *circum* 1543; he was also the author of the Catechism. A curious collocation. Particulars of his life are to be found in the "Dictionary of National Biography" and in Mr. Sargeaunt's "Annals of Westminster School."

THE HOUSING QUESTION.

MR. GEORGE CADBURY, a member of the well-known firm of cocoa manufacturers, who, we believe, belongs to the Society of Friends, has just set a noble example by a gift in trust of property valued at nearly £180,000. The property consists of a portion, in extent 330 acres, of the Bournville estate. Of this 330 acres one-third has been laid out and upon it are built 370 cottages, of which 143 have been sold at cost price on leases of 999 years. Those who have paid less than half of the cost are charged 3 per cent. interest, while those who have paid more than half are charged 2½ per cent. The remaining cottages, shops, and the like are let to weekly tenants and the rents accruing from these are paid into the trust. There are also 200 allotment plots, and in addition gardening classes have been formed, to each member of which is allotted a small plot, the classes being under the care of the Worcestershire County Council. The total rent-roll is £5245 per annum and the remainder, after current expenses are paid, is to be administered by the trust for the development of the estate. It is intended to purchase similar estates with the profits from the present one, and of such one-fifteenth only may be used for manufactories and one-tenth at the least is to be kept as open spaces, while the remainder is to be laid out on the Bournville model with cottages and gardens, the buildings not to cover more than one-fourth of the land on which they are erected. The idea of the founder is that the race should be helped to maintain its physique by the workers in factories being given opportunity to spend their leisure in recreation out of doors. Mr. Cadbury's scheme approaches as nearly as is possible under the modern conditions of manufactories to the ideal state in which the master, his apprentices, and his workmen lived under one roof and had common interests. Probably, as in all experiments, there will be mistakes and failures at first, but the idea is a noble one, and if something similar could be carried out for London, to say nothing of other large manufacturing towns, the new century would be worthily inaugurated.

APPENDICITIS DUE TO INTESTINAL WORMS.

AT the meeting of the Paris Academy of Medicine which was held on March 12th M. Metchnikoff made a most interesting communication. As Deputy Director of the Pasteur Institute M. Metchnikoff had been struck by the number of cases of appendicitis, true or false, in which he had been able to assign intestinal worms as the exciting cause, more especially in children. He cited three particularly instructive cases which had been under the care of Dr. Lemoine. All these cases showed

signs of a grave appendicular crisis, and upon a microscopical examination of the fæces being made there were found the ova of various parasites, such as the ascaris and the ova of nematode or trichocephalous worms. Vermifuge treatment expelled the worms and the crisis ceased as if by magic. Further microscopical examination revealed the presence of more ova and the treatment was continued until the patients were entirely cured. One of them had suffered from recurrent attacks every two or three months for four years. These facts are not new, for Boeckel and Davaine have already reported cases of appendicitis which coincided with the presence of intestinal worms, while Natale has described an inguinal abscess of appendicular origin which burst outwardly and gave exit to 16 living ascarides. Several surgeons, among whom are M. Brun and M. Guinard, while removing appendices have found various parasites within them, while sometimes an ascaris has been found outside the appendix, having escaped through a perforation. M. Metchnikoff does not consider that the worm is able to perforate the appendix by itself, but it brings about an injury to the mucous membrane which is then attacked by microbes, and through the ulcer thus formed the worm forces its way. Therefore, says M. Metchnikoff, a certain number of cases of appendicitis are due to the above-mentioned causes and can be cured by the treatment indicated. The fæces should be always examined microscopically for the existence of ova, and just as the sputa are examined in diseases of the lung or the urine in diseases of the kidneys, so the fæces should be examined in diseases of the intestine. As a means of prophylaxis in these tricky (*sournoises*) forms of appendicitis care should be taken to avoid such articles of food as carry with them the ova of parasites, such, for instance, as raw salads or raw fruit which has not been washed.

THE ROYAL INFIRMARY OF NEWCASTLE.

WE have to offer our hearty congratulations to the inhabitants of Newcastle-on-Tyne and its neighbourhood, and particularly to the governors of the Royal Infirmary, on the good fortune by which they are now enabled to proceed freely and cheerfully with the erection of the building of which His Majesty the King (then Prince of Wales) laid the foundation-stone on June 20th, 1900. They have been splendidly supported, first, by the inhabitants of the town and district subscribing over £100,000 towards the Jubilee Fund in memory of Her late Majesty's incomparable reign; secondly, by the will of the late Mr. John Hall of Newcastle, who left £100,000 towards the object on conditions that we need not here specify; and, lastly and most recently, by the munificent gift of £100,000 from Mr. and Mrs. Watson Armstrong, who are nobly desirous of so commemorating their distinguished relative Lord Armstrong in the city of his birth and around which his affections centred. Some delay has been occasioned in the building operations by the terms of Mr. Hall's will, but all difficulties have now been removed by the judgment of the Chancery Division of the High Court of Justice and by the almost coincident event of Mr. and Mrs. Watson Armstrong's gift, which was announced to the public in a letter to Sir George Philipson read on March 14th to the committee of the infirmary. We have only to express the hope that the new building will be worthy of the generosity with which it is promoted and of the great district in which it must long be a conspicuous object. We cannot doubt that under the wise guidance of Sir George Philipson and his colleagues upon the board of management the funds will be carefully administered, with chief regard to the welfare of the sick and injured for whose benefit it is being raised. The importance of the Newcastle School of Medicine and the excellence of the medical and surgical work done even in the old infirmary are generally recognised and are not unduly rewarded by the munificent gifts which we now notice.

OBSTETRIC FEES AND MEDICAL CONTRACTS.

IN the colliery districts the miners are slow to realise the fact that they pay their medical men very poorly. Receiving much larger wages themselves than they used to do they might be expected to feel more acutely the inadequacy of the remuneration which they give for medical attendance. "A General Practitioner," whose letter appears on another page, complains that some of the large sick clubs are trying to reduce the obstetric fee from the recognised guinea to ten shillings. We agree with our correspondent that such terms will not survive a fair discussion by selected committees from each side.

THE freedom and livery of the Worshipful Company of Leathersellers of London have been conferred upon Sir William Mac Cormac, President of the Royal College of Surgeons of England. The presentation was made at the hall of the company on March 13th. Sir William Mac Cormac having signed the required declaration in the presence of the Master and Court was robed by the clerk and afterwards conducted to the reception-room. A banquet, to which several guests had been invited, followed, and at its conclusion the health of the new freeman was drunk and the Master presented to him a handsome casket containing the certificate of freedom upon which was inscribed the following resolution of the Court—viz., "That having regard to his distinguished career and the services rendered to his country in South Africa Sir William Mac Cormac, Bart., K.C.V.O., President of the Royal College of Surgeons, be presented with the Honorary Freedom and Livery of the Company."

ON March 20th His Majesty the King received upwards of forty addresses from various educational and other bodies. Among the deputations were those representing Edinburgh University, Trinity College Dublin, the Royal College of Physicians of London, the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, the Royal Scottish Hospital, the Royal Medical and Chirurgical Society, and the Royal Institute of Public Health.

THE vacancy for the post of ophthalmic surgeon to St. Bartholomew's Hospital caused by the death of Mr. Bowater John Vernon has been filled by the election of Mr. Ernest Clarke. Mr. W. H. Jessop becomes senior ophthalmic surgeon in the room of Mr. Vernon, with the appointment of lecturer in ophthalmic medicine and surgery.

SUBSCRIPTIONS towards the expedition to the Pacific Islands for the investigation of the causation of malaria can, we are informed, be sent to the honorary secretaries of the Epidemiological Society at 11, Chandos-street, Cavendish-square, W., and from them further particulars of the project can be obtained.

A TELEGRAM has been received at the Colonial Office, dated March 19th, 1901, from Sir W. F. Hely-Hutchinson, Governor of Cape Colony, reporting for the week ending March 16th 81 plague cases admitted to hospital: deaths, 29; suspects, 17; and contacts, 402.

THE Privy Council by Order in Council have extended the operation of Part II. of the Medical Act of 1886 to Italy.

This is the first step, we presume, in the promotion of reciprocity of practice between Italy and the United Kingdom.

Sir William Broadbent, Bart., has been appointed a Knight Commander of the Royal Victorian Order and Dr. A. R. Manby a member of the fourth class of the same order.

HISTORY OF RENAL SURGERY.

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III.[1]

NEPHROTOMY (*continued*).

AT the beginning of last century (1803) Richter describes very well the appearances of suppurative disease of the kidney and also indicates the mode of operating, but he does not recommend any new lines of treatment. A valuable contribution to the pathology of the subject is that given by F. A. Walter (1800). But by far the most complete and classical book was that published by Rayer which appeared in 1839-1841; it marked a very decided and complete advance in the study of disease of the kidney, included not only all that was then known in respect to renal disease, but was in itself a most perfect exposition of the subject. Rayer explained clearly the surgical treatment; he considered the question of nephrotomy, and in his description he observed that calculi do not form in the substance of the kidney but in the pelvis and calices. As to removal of the kidney, he summed up the opinion of the time in the following sentence: "Ce serait folie de tenter chez l'homme atteint de calculs une telle opération." The proposal to incise a kidney for calculus where there is no swelling in the loin and the patient is otherwise in good health is not to be thought of. Rayer's opinions on this subject undoubtedly exercised for many years a strong influence against all operations upon the kidney.

Within the next 30 years two important transformations occurred, bringing with them a complete revolution in surgical practice. Operations which formerly had been looked upon as chimerical were now brought within the sphere of practical surgery. In Edinburgh Simpson had introduced the employment of chloroform as a general anæsthetic (1848), and in Glasgow Lister (1870) had worked out his theory of sepsis, introduced the antiseptic treatment of wounds, and began to preach his simple gospel of surgical cleanliness. In the first half of the last century the only operations which a surgeon could undertake were such as could be conducted with great rapidity; the best surgeon was he who had the strongest will and the quickest fingers. Elaborate operations followed step by step could not be attempted and minute dissections were impossible, consequently diseases of deep-seated organs, such as the kidney, were left severely alone. Simpson's energy in advocating the use of Liebig's discovery (1831) transformed all this. At first gradually the surgeon stretched out his hand, as the hand of a blind man, frequently to be advanced and again drawn back; the touch was tainted. Now, seeing clearly by the light of the truth taught by Lister, he has brought within his domain all organs. He can now do, even for diagnostic purposes only, operations unthought of when the last century was young.

In this country Mr. (now Sir Thomas) Smith in 1869 (three months prior to Simon's first nephrectomy) was the first to suggest seriously the operation of cutting down upon the kidney for the removal of a calculus, in a paper read before the Royal Medical and Chirurgical Society of London,[2] and at the end of his paper he suggests, what Mr. John Douglas attempted in Edinburgh 130 years earlier, "that before attempting the operation on the living, the possibility of removing renal calculi by nephrotomy should first be decided by operation on the body of one who has died with a stone in the kidney." Sir Thomas Smith carefully described a method of exposing the kidney by lumbar incision and recommended the operation for diagnostic purposes and for the removal of stone. The paper appeared at a very opportune moment and exercised a strong influence on the minds of surgeons. In the same year Annandale and Spencer Wells also wrote in favour of nephrotomy.

NEPHRECTOMY.

Although Sinibaldus (A.D. 1650) exhorted the French and Roman chirurgions "to make the experiment upon brutes that they might with greater dexterity and readiness perform it (nephrectomy) upon man," Zambeccarius (A.D. 1670) was the first to experiment upon animals, and along with Roonhuyzen (A.D. 1672) was enabled to demonstrate that one kidney could be removed without necessarily producing death; he was also the first to contemplate the operation of nephrectomy upon man. As already indicated his example was followed by Blancard, Blundell, and others. Rayer condemned the operation, and prior to the introduction of anæsthetics such a prolonged operation was practically impossible. The introduction of anæsthetics has permitted the development of surgery. In the olden days all operations required to be performed with great speed, so that one of the first considerations in an operation was rapidity. Nephrectomy from its very nature could not be performed otherwise than with deliberation and care, but now all reason for haste has been removed and the surgeon can slowly and confidently proceed with his work, knowing that he is not inflicting pain and that the main object is to have the operation well done and free from septic infection. Before the introduction of the methods of Lister the instruments and the hands of the surgeon often carried into the wound septic material and not infrequently the dressings which were applied made matters worse. Now all this is changed; the surgeon has learned to be clean in the highest sense of the term and everything around him is kept free from possible contamination; but besides these two great factors there have been other circumstances which have gradually led up to the development of renal surgery as we now know it. The immediately collateral branches of surgery were, about this time, undergoing great and rapid changes.

The progress of abdominal surgery has not been in an even line of advance during the last 150 or 200 years. One department has moved forward while another has stood still or has even gone back. There is little doubt that the surgery of the abdomen was better known from 200 to 150 years ago than it was at 60 years from the present time. A great amount of good work was lost and neglected. Roussetus (A.D. 1581) advised drainage by a cannula, so also did Heister in the middle of the eighteenth century, and he recommended washing out the abdomen with solutions. In many of the books of that time—for example, Dionis—minute and careful directions are to be found regarding the suturing of wounds of the abdominal wall and the treatment of the peritoneum.

In the last century probably no operation has had more influence in encouraging the advance of abdominal surgery than ovariotomy. At the beginning of the nineteenth century operations such as ovariotomy had been attempted only, but were condemned by the leaders in surgery, and it was not until 1842 that Charles Clay of Manchester placed ovariotomy on a sure foundation. In 1858 Spencer Wells in London, and in 1862 Thomas Keith in Edinburgh, began to practise ovariotomy, and in 1868 Peaslee developed the operation in America. The rapid increase in the number of ovariotomies lead to a few mistakes in diagnosis and as a consequence the kidney was removed from the living body by Peaslee, Esmarch, Speigelberg, and Walcott, in the belief that the disease was ovarian, with the exception of the case of the last mentioned surgeon which was thought to be one of cyst of the liver. Wells, after removing an ovarian cyst, found that in addition to the tumour he had taken away a healthy kidney. About this time Simon of Heidelberg, and Czerny, by their successful operations for relief or cure of disease of the kidney, gave an enormous impetus to systematic operative interference and established the claim of renal surgery beyond dispute. Simon's article must be regarded as the starting point in any discussion on the subject of renal surgery, and a consideration of the facts which induced him to resort to extirpation of the kidney for the relief of disease must always be of special interest to the surgeon. A distressing case of urinary fistula, resulting from ovariotomy, having

[1] Parts I. and II. were published in THE LANCET of March 2nd (p. 649) and 9th (p. 726), 1901, respectively.
[2] Transactions of the Royal Medical and Chirurgical Society of London, vol. li., p. 211.

come under his care, and all resources having failed to relieve the sufferings of the patient, the advisability of extirpating the kidney suggested itself. Before, however, such an operation could be resorted to it was necessary to ascertain whether or not it was consistent with life suddenly to withdraw the function of one kidney and to throw the entire labour upon the other organ. Pathological records afforded him many instances in which one kidney had been gradually rendered functionally useless by *slowly progressing disease*, and where compensatory hypertrophy had gradually become established without disturbance to the economy. No doubt he was aware of the experiments of Prévost and Dumas and of Claude Bernard, if not of the much earlier observations of Zambeccarius, Blancard, and Blundell. But he had to satisfy himself whether or not *sudden* withdrawal of one kidney would be tolerated and to prove it by experiment upon animals. For the purpose of clearing up this point he performed 15 nephrectomies upon dogs and found (1) that the greatest risk of death was from peritonitis; (2) that primary and secondary hæmorrhages were less to be feared than he had anticipated; (3) that pyæmia and embolism were not met with in a single case; (4) that the effect upon the elimination of the renal excreta was not such as to lead to symptoms of uræmia; (5) that no albuminuria or hypertrophy of the heart resulted from the operation; and (6) that the remaining healthy kidney within a short time increased in size and was soon competent to perform the double duty suddenly imposed upon it. These results encouraged Professor Simon to perform the first nephrectomy designed upon definite physiological principles.

Simon's experiments were undoubtedly a severe test of the ability of the remaining kidney, but it must be remembered that such operations upon healthy animals are not exactly equivalent to what we have to deal with in man, where the kidney to be removed is always diseased and the condition of its neighbour is not in every case able to be ascertained. On the other hand, in many instances in the human subject, the opposite kidney from the one to be removed has undergone compensatory hypertrophy and so improved its functional activity and capability. Besides the question of the elimination of the renal excreta after nephrectomy there were other facts which required to be demonstrated by the experiments. In ligature of the renal artery, close to its origin from the aorta, was the ligature to be depended upon to control the blood-pressure, and when it became absorbed was the thrombus liable to be disturbed? Might not thrombi in the renal veins become detached and give rise to embolisms elsewhere? Could the deep wound heal without contaminating the peritoneal cavity? These questions having been settled by experiment (in April, 1869) Simon cut down upon the kidney of Margaretha Kleb, aged 46 years, and removed it. He carried out the operation in the most careful way, and the brilliant result he obtained spurred men to higher achievements.

Simon had no imitators for nearly a year. In April, 1870, Parker[3] removed a kidney from a female patient, aged 12 years, who suffered from hydronephrosis, but the patient died from shock on the day following. In December of the same year in America Gilmore[4] performed a successful nephrectomy for painful moveable kidney in a woman, aged 39 years, who was five months pregnant and who recovered without any mishap. The year following Simon's second nephrectomy and von Bruns's first operation were performed, and in March, 1871, von Bruns[5] in a case of lumbar urinary fistula with calculous pyonephrosis excised the diseased kidney. The patient, a German officer, died in 10 hours from collapse, and at the post-mortem examination the remaining kidney was shown to be occupied by multiple abscesses. In August, 1871, Simon performed the first nephrectomy for renal calculus pure and simple. The patient, a woman, aged 30 years, a resident of Savannah, Georgia, in the United States, consulted Simon in Heidelberg, and had the affected kidney removed. Simon confesses that he undertook the operation with a great sense of responsibility and much anxiety. Up to this time all authorities had condemned nephrectomy for renal stone, and the writings of Rayer had still a strong influence with the profession against the operation. It had not been attempted upon the human subject. The patient made a good immediate recovery from the operation, but died on the thirty-first day from septic infection of the wound. All went well till the twenty-first day; then the patient was convalescent, but as the dressings were being changed in the presence of Simon he was induced to explore the wound with his finger without any precautions as to disinfection. In a few hours the patient had a rigor, the temperature rose, and general sepsis ensued involving septic peritonitis and pleurisy. In 1876 Simon died, without again performing a nephrectomy, but he had already laid the foundation of renal surgery, and when the influence of Lister's teaching became generally felt and appreciated this department of surgery made rapid strides. During the first 10 years—that is to say, from 1870 to 1879—57 renal operations were performed with a mortality of 29, or a little over 50 per cent.

TABLE I.—*Renal Operations from 1870 to 1879.*

—	Nephrotomies.	Deaths.	Nephrolithotomies.	Deaths.	Nephrectomies.	Deaths.
For hydronephrosis and cystic disease	3	—	—	—	7	5
For septic disease without calculus	11	4	—	—	2	1
For septic disease with calculus	—	—	11	6	6	4
For tuberculosis	4	1	—	—	1	1
For tumours	—	—	—	—	12	7
—	18	5	11	6	28	18

During the next five years, from 1880 to 1884, 219 operations were performed, two-thirds of which were nephrectomies. Indeed, at this period nephrectomy was resorted to very freely and was adopted as the only remedy for conditions which are now treated by less heroic measures. The mortality all over was 71, or a little under 24 per cent.—a decrease of 50 per cent. on the mortality of the previous 10 years.

TABLE II.—*Renal Operations from 1880 to 1884.*

—	Nephrotomies.	Deaths.	Nephrolithotomies.	Deaths.	Nephrectomies.	Deaths.
For hydronephrosis and cystic disease	9	—	—	—	21	7
For septic disease without calculus	23	5	—	—	25	10
For septic disease with calculus	—	—	19	5	35	12
For calculus	—	—	17	—	—	—
For tuberculosis	8	2	—	—	23	9
For tumours	—	—	—	—	39	21
—	40	7	36	5	143	59

These statistics serve as a basis to illustrate the progress of renal surgery during the first 15 years of its growth. It will be very interesting to know the advancement that has taken place in the 15 years terminating with the end of the century. The writer has already endeavoured to collect the statistics of cases published up to the end of 1900.

In May, 1872, two nephrectomies were performed, one published by Peters[6] and the other by Durham.[7] The former case was the first nephrectomy for a tuberculous nephritis. The vesiculæ seminales and ureters were also involved, and the patient died from hæmorrhage in 65 hours. Andrew and Callender[8] have recorded a case of a lumbar nephro-lithotomy in a patient suffering from calculous pyelitis, and Dawson[9] gives an account of a similar case in which he performed an abdominal nephro-lithotomy with a fatal result.

These statistics are far from encouraging, but in the following year (1873) four successful cases were brought

[3] Newman: Lectures on Surgical Diseases of the Kidney, p. 158.
[4] Harris's Statistics.
[5] Simon: Chirurgie der Nieren, 1876, Band ii., p. 54
[6] New York Medical Journal, November, 1872.
[7] Brit. Med. Jour., vol. i., 1872.
[8] St. Bartholomew's Hospital Reports, vol. ix., p. 220.
[9] New York Medical Journal, January, 1873.

forward—three nephrectomies and one nephro-lithotomy. In March, 1873, Marvand [10] performed a lumbar nephrectomy for prolapse of the right kidney through a lumbar wound. The patient had a rapid recovery and left the hospital 21 days after the operation. Three months later Brandt [11] performed the same operation in a similar case with an equally good result. In October W. Ingalls [12] of Boston performed a lumbar nephro-lithotomy in a case of calculous pyelitis with a good result, and in December Campbell [13] of Dundee successfully excised a cystic kidney by abdominal nephrectomy.

Of the next five nephrectomies, all performed for malignant disease, three of the patients died and two recovered. G. Kocher [14] of Bern operated on two cases of sarcoma of the kidney by abdominal nephrectomy, both of which were fatal; Langenbuch [15] performed a successful lumbar nephrectomy for sarcoma; and Mr. T. R. Jessop [16] of Leeds successfully excised through a lumbar incision the first kidney removed in this country for malignant disease. G. Hunter [17] also removed a sarcomatous kidney, but the patient died from hæmorrhage during the operation. The new ideas which had advanced in Germany, Great Britain, and America did not receive ready acceptance in France and Italy. It was not until 1880 that M. Léon Le Fort [18] performed nephrectomy for the first time in France, in a case of lumbar urinary fistula the result of a wound which divided the ureter. The patient died from shock 24 hours after the operation.

The great bulk of the early operations were nephrectomies; naturally the operation was resorted to only in extreme cases, and consequently the mortality was very high. At the end of 1879, excluding cases of erroneous diagnosis, 28 nephrectomies had been recorded—seven for hydronephrosis or cystic disease, with five deaths; two for pyonephrosis without calculus, with one death; six for calculous pyonephrosis, with four deaths; one fatal case for tuberculous disease; and 12 operations for malignant disease, with seven deaths. 18 nephrotomies were performed with five deaths, and 11 nephro-lithotomies for calculous pyonephrosis with six deaths.

Whether a kidney containing a calculus should be excised or not must depend upon the conditions in the individual case. It may be admitted that in cases where the organ has been destroyed by septic disease, and a considerable pyonephrosis has resulted, nothing short of excision will cure the patient; but when a stone is known to be present at a time prior to pyogenic infection the organ may be exposed and the calculus removed—to perform nephrectomy in such a case is not now justifiable. But up to 1880 no attempt had been made to remove a stone from an otherwise healthy kidney, with the exception of the cases recorded above, and these cannot be placed alongside the operation carefully contrived and carried out by Mr. Henry Morris of London in February of that year. He was induced to undertake the operation by the extreme severity and persistency of the symptoms in the case under his care, and he demonstrated for the first time that a calculus could be removed by cutting freely into the healthy renal parenchyma. This was a very distinct advance; it enabled the stone to be removed at an early stage in the disease before sepsis set in and the kidney was destroyed. The surgeon, instead of being contented by relieving the patient of a renal stone which has given rise to an abscess in the kidney or found its way to the surface by suppuration, anticipates nature and removes the calculus before it has produced destructive changes in the renal tissue. In this way not only is the kidney saved and the patient relieved, but by operating early in the course of the malady the immediate dangers formerly associated with the operation are reduced to a minimum.

Le Dentu [19] performed nephrolithotomy in France in October of the same year, and in Britain in the year following Mr. Marcus Beck [20] and Mr. H. T. Butlin [21] successfully removed calculi from an otherwise healthy kidney, and Dr. John Duncan [22] explored a kidney but failed to find the stone. A. E. Barker, Howe, Symonds, Anderson, K. Thornton, and others in this country took up the operation actively and in a few years the old fear of incising the renal parenchyma disappeared for ever.

(To be continued.)

[10] Recueil de Mémoires de Médecins Militaires, 1874.
[11] Wiener Medicinische Wochenschrift, 1873, No. 48 and No. 49.
[12] Newman: Lectures on Surgical Diseases of the Kidney, p. 262.
[13] Edinburgh Medical Journal, 1874, p. 36.
[14] Deutsche Zeitschrift für Chirurgie, Band ix., S. 312.
[15] Berliner Klinische Wochenschrift, 1877, No. 34.
[16] THE LANCET, June 16th, 1877, p. 889.
[17] Deutsche Zeitschrift für Chirurgie, Band ix., p. 527.
[18] Gazette des Hôpitaux, 1880, No. 138.
[19] Brodeur, p. 348.
[20] Brit. Med. Jour., vol. ii., 1885.
[21] Transactions of the Royal Medical and Chirurgical Society, vol. xv., p. 113.
[22] Newman: Lectures on the Surgery of the Kidney, p. 258.

THE ROYAL COMMISSION ON SOUTH AFRICAN HOSPITALS.

(Continued from p. 810.)

V.

IN a report in which continuity of arrangement has to be maintained it is unavoidable to have some overlapping, and there are consequently occasional references from one to other parts of the report of the Royal Commission on South African Hospitals which make it somewhat difficult of analysis. But a perusal of the summary which we have already published—with which we may assume our readers to be acquainted and to which they can refer—will make it easy for them to follow us in our comments.

We may take the following facts as an evidence of our unpreparedness for a campaign such as that which has actually occurred in South Africa. At the outbreak of the war there were only available staff and equipment for two army corps, and even the two army corps which were first employed in the war could only be staffed and equipped with difficulty. For the sixth division, according to the evidence of Major Bedford, R.A.M.C., the reservists had to be used and a mixed *personnel* employed. After providing for the first two army corps there existed only a reserve equipment sufficient to furnish one general and two stationary hospitals (page 8). It is easy to be wise after the event, but as a matter of fact no one foresaw at the beginning of the war that a force enormously larger than two army corps, in addition to the British troops already in South Africa, would be required. In other ways, too, the army corps unit allowance of field hospitals was reduced from nine or ten to six, and these hospitals in South Africa were ten short of the proper number, which shortage was never made up and caused a strain throughout the campaign. As regards the small reserve of hospital equipment, while seeing some force in the objection to keeping up permanently a large stock owing to the fear of much of it becoming obsolete, we concur with the Commission in thinking that this explanation is not wholly satisfactory. The total number of troops landed between September, 1899, and July, 1900, did not fall short of the aggregate of 230,000 men. At the time of the greatest pressure, which occurred at the end of the month of March, 1900, the total force then engaged being 207,000 men, there were in the country some 800 medical officers (including civil surgeons), 6000 hospital subordinates, and 800 nurses (page 10). When the enormous extent of country and the rapid and unexpected movements of the troops are taken into consideration, together with the extreme difficulties of transport and the necessity that such transport as was available should be used mainly with the view of meeting the necessities of the fighting force rather than for rendering medical aid, it must be admitted that the task imposed upon the medical service was herculean. Also the amount of medical aid available in the country generally was not distributed, it must be remembered, according to the needs of particular localities. These difficulties, which had to be more or less encountered generally, became most conspicuous at Bloemfontein during the months of April and May. Notwithstanding that the services of civil surgeons in the United Kingdom were available and largely utilised it took time to get them out to South Africa and the supply of local practitioners at the Cape was very limited. In opening out fresh hospitals and utilising these surgeons it was found essential to have a certain number of medical officers of the army employed for reasons which are uncommonly well put by Mr. Bowlby, senior surgeon in charge of the Portland Hospital, and set forth at page 9 of the report. The difficulty of supplying properly trained hospital orderlies was much greater than that of finding civil surgeons and, in fact, was never really overcome.

As regards the officers of the Royal Army Medical Corps, they could not be supplied, for the simple reason that they were not to be had in anything like sufficient numbers. It is notorious that the Army Medical Service has for years past been an unpopular one with the medical schools and hospitals. Some ascribe the cause to one thing—such as the abolition of the regimental system—some to another, or to a multiplicity of causes; but the fact remains that the service fails to draw the number of candidates required for its needs even in times of peace, to say nothing of war; and, what is more, even if it did draw them in abundance it would be impossible for financial reasons alone to maintain a permanent medical establishment of sufficient strength to meet the requirements of any big modern war. Recourse must, perforce, be had, and very largely had, to other expedients. The strength of the Royal Army Medical Corps must in any case be largely increased in the near future. But what should now be considered is the framing of some far more widely based and comprehensive scheme, which shall include not only the regular medical service as an integral part of the army, but the medical services of the militia, volunteers, and colonial forces, supplemented by as much medical aid as is needful in time of war from the staff of our civil hospitals and the medical profession generally. What seems to be wanted under the new and altered conditions of the British Empire is a scheme of organisation which would result in the practical formation of an Imperial Medical Service. Can such a scheme of medical aid be devised and organised on lines which will commend themselves to the understanding, patriotic sympathy, and favourable consideration of the whole medical profession at home and abroad? It surely should not pass the wit of man to devise something of the kind and we believe that to some extent the lines upon which it can be done have been indicated by the system adopted in Germany.

With regard to the complaints concerning medical officers of the Royal Army Medical Corps the report deals with the matter fairly and discriminately. As a whole their conduct and capacity are stated to deserve great praise. The number of those who have died during the war is unfortunately large. With the exception of a few instances the charges levelled against them were unfounded. The Commissioners in this connexion allude to the unattractiveness and under manning of the corps and the insufficient opportunities for leave and study in order to keep abreast with recent advances in the practice of medicine and surgery and other matters. The Commissioners recommend that immediate steps should be taken at the end of the war to increase the permanent staff of the Royal Army Medical Corps, and to provide for its speedy enlargement in times of great wars. Inducements must be offered to insure the continuous supply of sufficient men of good professional attainment, and means must be adopted for keeping them *au courant* with the results of medical progress so as to secure a high standard of professional efficiency (page 12). The Commissioners, in dealing with complaints that officers of the Royal Army Medical Corps are too military in their habits and conduct, contrast the great differences which exist between the nature and variety of the duties in civil and army life and refer to the excellent evidence of Mr. Bowlby and of Colonel Macnamara. Admitting to the full this distinction and the necessity for military rank on the part of officers of the Royal Army Medical Corps, they nevertheless think that there has been a tendency on the part of some of the officers, and still more on the part of the non-commissioned officers and men of the corps, to treat hospitals as if they were barracks and the occupants too much as soldiers and too little as patients (page 12). The report dwells upon the immense amount of work that had to be discharged by the principal medical officer and the head quarter medical staff in South Africa and the difficulties which they had to encounter—far greater than those to be met with in any ordinary campaign.

In South Africa the territory occupied by the troops is vast. In this territory numerous armies or bodies of men have been continuously and rapidly changing their positions. Often the army movements have been extremely sudden and no notice of them could be given beforehand to the medical staff. The medical arrangements for all these armies and troops had to be considered and provided for. In addition the medical staff had to consider and provide for the placing and shifting of the various hospitals on the lines of communication and the establishment of the hospitals at the base and the supply and care and transport of all the numerous requisites for sick and wounded men throughout the country occupied by our soldiers.

Of course, judging from events, we know that mistakes have been made by the staff in the course of this war and that things have not been foreseen which might have been. We have pointed out in dealing with complaints in Part III. instances of such mistakes and oversights. But taking their work as a whole and considering the difficulties they have had to contend with we think that the principal medical officer and his head staff have done excellent work. They have never spared themselves and have shown a great devotion to their duty and every desire to make due provision for the care of the sick and wounded, and when their conduct is fairly judged we think that they deserve great praise. The organisation of the field and stationary and base hospitals for the colonial troops, the militia, and volunteers fell upon the medical staff in South Africa, and in our judgment they met the difficulties presented to them with singular ability and success (page 13).

We may pass over much of the remainder of Part II. of the report, simply contenting ourselves with a few comments as we proceed until we come to the subject of sanitation. The report states that the civil surgeons employed during the campaign have, as a body, done their duty extremely well and, as a rule, worked well with the Royal Army Medical Corps. As a whole the orderlies discharged their duties satisfactorily, notwithstanding that there have been numerous complaints against them, some of which were apparently well founded. Many of the orderlies showed great devotion. Without upon this subject we may say that a better class of men, physically and socially, is required. Orderlies are insufficiently paid, and their training should be improved in a medical and not in a military direction. They are often not physically strong enough for their duties and it must be borne in mind, a fact which seems to have been forgotten, that in lowering the physical standard for the men of the corps another and less desirable stratum of the population is tapped. It is not so much military smartness as respectability, hospital training, intelligence, personal cleanliness, and skill in the execution of their ward duties as sick-attendants that are required from the men of this corps.

Of the private hospitals there is little or nothing said in the report that is not favourable. The differences and points of contrast between civil and military hospitals are pointed out. The numerous private hospitals were, it need scarcely be said, a very material aid in this war, and the army medical service is entirely in accord with the nation in their high appreciation of the work these hospitals did. Some of them were fitted out with an elaboration of detail, convenience, and comfort that left little or nothing to be desired. It is unreasonable to anticipate, however, that the Government can compete and vie with private enterprise and philanthropic effort in this respect, and we consider that so long as war is war it is vain to expect military hospitals to be furnished on a splendid scale like that of the Yeomanry hospital, for example. Nor is it necessary or desirable. We are not in accord with Mr. Murray Guthrie, M.P. (*vide* Nos. 2307, 2308, 2482, and 2483, Minutes of Evidence). His evidence seems to us misleading in character. With reference to the remarks of Mr. Burdett-Coutts, M.P., and Mr. Murray Guthrie, M.P., about the death-rate being less in civil than in military hospitals, at page 15 of the report an attempt is made on a limited scale to institute a comparison between the death-rates of private hospitals and military hospitals. A return is furnished by Surgeon-General W. D. Wilson of the percentage ratios of deaths from general causes and from enteric fever in five hospitals—two military and three civil. The result of the comparison is, on the whole, favourable to the military hospitals, but such comparisons are, for various reasons, often untrustworthy and misleading. Touching charitable gifts the Commissioners make the practical suggestion that in future wars it would be advisable to have them all received and dealt with by one organised body. There will never be any absence of supplies of comforts of all kinds for our soldiers in time of war. They will be forthcoming in embarrassing abundance when the national feelings of patriotism and philanthropy are once roused, but great difficulty will attend their distribution. We require, indeed, to have our whole charitable system and organisation in time of war inquired into with a view to see whether its machinery can not be remodelled and placed on a simpler, more effective, and economical basis. Special praise is given to the ambulance trains so largely used in the campaign. The Commissioners speak highly of the state in which they found the hospitals in South Africa at the time of their visit and express an opinion that the institutions were quite able to cope with an outbreak of enteric fever or other disease should it occur (page 16). This condition will be attributed by some to Mr. Burdett-Coutts's strictures, and by others simply to the fact that the temporary state of extreme strain and pressure which undoubtedly existed when he saw them had passed away. No doubt both factors may have exercised an influence, but, in our opinion, the latter was the main one.

We are very glad to notice that the report decisively affirms that the head of a military hospital should be a member of the Royal Army Medical Corps, and we fully concur in what the Commissioners have to say on the subject and with the tenour of the evidence of military officers generally thereon.

With regard to what is vaguely known, but nevertheless pretty well understood, by the term "red tape," comprehending returns, records, difficulties, and delays in respect of the requisitioning of necessaries, &c. (p. 17), the report contains much that is very pertinent and sensible. The House of Commons must, we fear, be held to be responsible (directly and indirectly) for a good deal of laborious clerical work so long as it is open to Members to call for returns on every conceivable subject. That a certain number of official records and returns of various kinds must, under any system, be maintained is unquestionable, but the amount of clerical labour in the service generally is one of the worries of army life, and, we think, of army medical life in particular, whether in peace or war. It diverts too much of the medical officer's time and attention from far more important duties and makes him too much dependent on his soldier clerks. The subject requires to be very carefully gone into with the view of seeing whether clerical labour could not be materially reduced and simplified. To take one example by way of illustration, the medical record of cases should be governed by their severity or interest and not by the mere fact that something extra in the way of diet had been ordered. It certainly looks as if the design were not at all in the interest of the patient, but to restrain the hand of the prescribing officer by giving him extra and unnecessary trouble.

As regards the delay and difficulties which arise from medical officers having to get their supplies from the Army Service Corps the Commissioners make a highly important suggestion, and it is this:—

> Whether this can to any and what extent be avoided with practical advantage by permitting the Royal Army Medical Corps to have sole possession of, and control over, all hospital necessaries (other than ordinary food and ordinary clothing), including such things as beds, mattresses, and hospital clothing, is a question which should be considered by the committee which we have already mentioned.

There are many medical officers of experience who regard this as the root of the whole matter and consider that until the army medical service is self-contained and complete in itself in every respect, so as to render it independent of supply departments, there will and must be recurring failures. This subject, together with that of transport, is regarded by them as one of primary importance, but the consideration of it will more fitly and conveniently arise when we come to consider that part of the report devoted to "suggestions with a view to remedying defects."

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on March 14th, Sir WILLIAM MAC CORMAC, Bart., K.C.V.O., the President, being in the chair.

The SECRETARY reported the death, on Feb. 2nd (Jan. 20th O.S.), of Professor Victor Pachoutine, Hon. F.R.C.S. Eng., President of the Imperial Military Academy of Medicine at St. Petersburg; and the PRESIDENT stated that he had written to Madame Pachoutine and to the Imperial Military Academy of Medicine to express the sympathy and condolence of the Council.

The PRESIDENT nominated Dr. S. Monckton Copeman and Dr. Christopher Childs for appointment by the Council as the delegates of the College to the Congress of the Royal Institute of Public Health to be held at Eastbourne in July next.

The PRESIDENT reported that, in pursuance of the provisions of the Bradshaw Bequest, he had chosen Mr. T. R Jessop as Bradshaw Lecturer for the ensuing collegiate year.

The PRESIDENT reported the delivery of the Hunterian Oration by Mr. N. C. Macnamara, and the best thanks of the Council were given to Mr. Macnamara for his oration and he was requested to publish it.

The PRESIDENT and VICE-PRESIDENTS reported that, subject to the approval of the Charity Commissioners, they had accepted a design from Mr. Allan Wyon for dies for the Cartwright medal.

A report from the Board of Examiners in Dental Surgery was read; it was referred to a committee of the Council to consider. The report contained suggestions for alterations in the curriculum and in the examinations. Memorials were received from the staff of the Victoria Dental Hospital of Manchester and from the staff of the Liverpool Dental Hospital referring to the proposed changes.

A letter was read from Mr. George Brown and Dr. G. Danford Thomas specifying the points in regard to which they are of opinion that the Medical Acts require amendment. This was in answer to a letter from the Council in reference to a resolution carried at the annual meeting of Fellows and Members.

The following resolution was carried unanimously, and an illuminated album containing it, with the signatures of the Council, was presented to Mr. Edward Trimmer, M.A., the secretary, who is retiring after 42 years' service:—

> On the occasion of the retirement of Mr. Edward Trimmer from the office of secretary to the Royal College of Surgeons of England the Council gladly avail themselves of the opportunity to express to him their very high appreciation of his services to the College and their warm regard for him personally.
>
> The powers of organisation displayed by Mr. Trimmer during the time the arrangements for the examinations were under his supervision, his experience in all matters relating to procedure, his thorough mastery of the charters and by-laws, and his exceptional knowledge of the history of the College, have enabled him to render to the College services of the greatest value, and the Council cannot but feel that they are losing an officer who has always maintained the high traditions of the College and successfully striven to advance its interests.
>
> His unfailing courtesy, genial manner, and sound judgment have justly caused him to be highly respected, and whilst the Council express the hope that in his retirement Mr. Trimmer will enjoy many years of health and happiness, they assure him that neither he nor his services to the College will be forgotten by those who have had the pleasure of associating with him.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Kettering Urban District.—Mr. J. Winter Dryland expresses the opinion that in so far as this district is concerned the time is not yet ripe even for the voluntary notification of phthisis; but he reports that a veterinary inspector has been appointed to inspect the cows supplying milk to the town. After deaths from phthisis the invaded house is carefully disinfected and handbills are distributed drawing attention to the manner in which the disease is spread.

Borough of Kensington.—Dr. T. Orme Dudfield's last monthly report contains a summary of the vital statistics for 1900. The estimated population of the borough at the middle of the year in question was 173,000. The birth-rate was 20·7 per 1000 (as contrasted with a rate of 33·1 in 1868) and the general death-rate was 15·6 per 1000. The infantile mortality was 179 per 1000 births, as compared with 159 per 1000 births for London as a whole. This high rate was in large part due to an excessive infantile mortality, 290 per 1000 births, in the north-west district.

Maldon Rural District.—The southern part of this district has been fortunate in being provided during 1900 with an adequate supply of pure water drawn from springs thrown out from the gravel by the underlying London clay. The greater part of this district seems now, thanks to the energetic action of Dr. Thresh, to be well supplied with water. The Maldon Rural District Council during 1900 applied to the county council for sanction to adopt Part III. of the Housing of the Working Classes Act, 1890. The application was granted, but the committee of the county council which conducted the inquiry point out that most of the cottages attached to the farms are let at a much too low rental, the labourers accepting this substitute for a low weekly wage. It was urged by some of the witnesses that 1s 6d. a week was all that could be paid by the labourers, but the county councillors observe in their report that no decent cottages can be built for a rental such as this. If the actual value of the cottage was charged to the labourers there might be some inducement to private enterprise, but as it is there is none. Nevertheless, the county councillors granted the application.

Whitechapel Sanitary District.—The formation of the Metropolitan Borough of Stepney has put an end to the district of Whitechapel as a separate sanitary unit, and Mr. Joseph Loane, the medical officer of health, finds himself among those officers whose posts are abolished from March 25th next. In this, his last report, Mr. Loane furnishes a short retrospect of the work done in Whitechapel and of the development of the sanitary staff since he took office 18 years ago. Overcrowding has, Mr. Loane tells us, been the worst problem which he has had to face, and in his opinion the attempt to remove the workers to the suburbs will never succeed unless and until they are able to take their workshops and their factories with them. He thinks that efforts should be made to undersell the "house-sweaters" by erecting good healthy dwellings for the people at rents not exceeding 3*s.* per room per week, and in his view the aid of wealthy philanthropists must be called in. But what will the political economists say to this?

Kingston-on-Thames Urban District.—The Thames Conservancy has apparently expressed its dissatisfaction with the effluent turned out from the Kingston sewage works and the corporation is concerning itself with the problem of procuring a more satisfactory effluent. With this object in view the medical officer of health, Mr. H. Beale Collins, has visited many experimental works and has reported thereon to the corporation. As regards the control of tuberculosis the medical officer of health advises that the examp'e of neighbouring authorities should be followed and that all cows in the Kingston district should be tested with tuberculin by a veterinary inspector. Much milk comes into Kingston from outside districts, and Mr. Collins protests against the careless method of transport of such milk and he draws attention to the unprotected manner in which the milk churns are sent by train. Certainly anyone who travels much by train has ample opportunities of seeing illustrations of this carelessness. The Kingston Corporation is enjoined by its medical officer of health to take a lesson from the successful Danes in the matter of dairy produce.

Carlisle Urban District.—Mr. William Brown, the medical officer of health of this city, reports that the public slaughter-houses have been a great success. Before their erection slaughtering was carried on in 27 private slaughter-houses under very unsatisfactory conditions. In the five years preceding the erection of the public slaughter-houses only one case of tuberculosis came to the notice of the sanitary authority. For the last five years an average of 53 tuberculous carcasses have been examined. The veterinary inspection of dairy cattle was carried on during 1900, and the diseases discovered were tuberculosis, acute inflammation of the udder, congestion of the lungs, hæmaturia, and cow-pox. Tuberculosis in the human subject is compulsorily notifiable in Carlisle, and notification during 1900 brought to light 18 cases of phthisis and three of tabes mesenterica, but Mr. Brown does not tell us what action was taken as a result of such information.

Worcester County District.—In preparation for the "Consumption Conference" which was held at Worcester on Feb. 9th, Mr. G. H. Fosbroke, the county medical officer of health, prepared a useful map and some charts, illustrative of the behaviour of phthisis in the county. The charts show a steady fall since 1861, and it is gratifying to learn that Worcestershire, as compared with other counties, has a very low death-rate from phthisis, in fact, it shares the honour of least phthisis mortality with Staffordshire and Leicestershire.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6822 births and 4280 deaths were registered during the week ending March 16th. The annual rate of mortality in these towns, which had been 21·5 and 19·6 per 1000 in the two preceding weeks, further declined to 18·9 last week. In London the death-rate was 17·6 per 1000, while it averaged 19·8 in the 32 large provincial towns. The lowest death-rates in these towns were 13·8 in West Ham, 14·3 in Burnley, 14·6 in Brighton and in Swansea, 14·7 in Bolton and in Derby; the highest rates were 24·8 in Oldham, 26·6 in Plymouth, 28·2 in Liverpool, and 29·0 in Sunderland. The 4280 deaths in these towns included 370 which were referred to the principal zymotic diseases, against 395 and 376 in the two preceding weeks; of these 112 resulted from whooping-cough, 105 from measles, 66 from diphtheria, 30 from scarlet fever, 29 from diarrhœal diseases, and 28 from "fever" (principally enteric). No death from any of these diseases occurred either in Brighton or in Swansea; in the other towns they caused the lowest death-rates in Portsmouth, Plymouth, Norwich, Huddersfield, and Bradford; and the highest rates in Bristol, Derby, Liverpool, Salford, and Sunderland. The greatest proportional mortality from measles occurred in Liverpool, Leeds, and Sunderland, and from whooping-cough in Bristol, Cardiff, Derby, Birkenhead, Halifax, and Sunderland. The mortality from scarlet fever and from "fever" showed no marked excess in any of the towns. The 66 deaths from diphtheria included 30 in London, six in Sheffield, four in Leeds, four in Salford, four in Liverpool, and four in Bristol. No fatal case of small-pox was registered last week in any of the 33 towns, and only one small-pox patient remained under treatment on Saturday last, March 16th, in the Metropolitan Asylums hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1652, against numbers decreasing from 2535 to 1746 on the 11 preceding Saturdays; 130 new cases were admitted during the week, against 162, 185, and 140 in the three preceding weeks. Influenza was certified as the primary cause of 30 deaths in London last week, as compared with 32, 35, and 39 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 501 and 463 in the two preceding weeks, further declined last week to 394, and were 124 below the corrected average. The causes of 63, or 1·5 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Manchester, Bradford, Leeds, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Sheffield, Hull, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·5 and 23·4 per 1000 in the two preceding weeks, further declined to 22·7 per 1000 during the week ending March 16th, but was 3·8 per 1000 in excess of the mean rate during the same period in the 33 large English towns. Among these Scotch towns the death-rates ranged from 11·1 in Leith, and 13·4 in Perth, to 24·4 in Glasgow and 25·4 in Edinburgh. The 713 deaths in these towns included 40 which were referred to whooping-cough, 24 to small-pox, 10 to measles, seven to diphtheria, six to "fever," six to diarrhœa, and five to scarlet fever. In all, 98 deaths resulted from these principal zymotic diseases last week, against 122 and 113 in the two preceding weeks. These 98 deaths were equal to an annual rate of 3·1 per 1000, which was 1·5 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 67 and 51 in the two preceding weeks, further declined last week to 40, of which 22 occurred in Glasgow, seven in Edinburgh, five in Dundee, and four in Greenock. The deaths from small-pox, which had been 15, 12, and 20 in the three preceding weeks, further rose last week to 24, and were all registered in Glasgow. The fatal cases of measles, which had been 13 and 15 in the two preceding weeks, declined again to 10 last week, and included five in Edinburgh, two in Glasgow, and two in Aberdeen. The deaths from diphtheria, which had been two in each of the two preceding weeks, rose last week to seven, of which six occurred in Edinburgh. The six fatal cases of "fever" corresponded with the number in the preceding week, and included three in Glasgow. The deaths from diarrhœa, which had been 23 and 15 in the two preceding weeks, further declined last week to six, of which three occurred in Glasgow, where four of the five fatal cases of scarlet fever were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 184 and 161 in the two preceding weeks, rose again last week to 171, but were slightly below the number in the corresponding period of last year. The causes of 26, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 46·6 and 39·6 per 1000 in the two preceding weeks, further declined to 34·6

per 1000 during the week ending March 16th. During the past four weeks the death-rate in the city has averaged 38·6 per 1000, the rate during the same period being 19·7 in London and 23·4 in Edinburgh. The 230 deaths belonging to Dublin registered during the week under notice were 33 below the number in the preceding week and included 14 which were referred to the principal zymotic diseases, against 12 in each of the two preceding weeks; of these, 11 resulted from whooping-cough, two from diphtheria, and one from "fever." These 14 deaths were equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 1·6 in London and 3·4 in Edinburgh. The fatal cases of whooping-cough, which had been three, five, and 10 in the three preceding weeks, further rose last week to 11. The mortality from diphtheria showed a slight increase over that in recent weeks. The 230 deaths in Dublin last week included 41 of children under one year of age and 72 of persons aged upwards of 60 years; the deaths of infants exceeded the number recorded in the preceding week, while those of elderly persons showed a decline. Four inquest cases and five deaths from violence were registered; and 73, or nearly one-third, of the deaths occurred in public institutions. The causes of 16, or nearly 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Inspector-General of Hospitals and Fleets Henry Dawson Stanistreet has been placed on the retired list. Deputy Inspector-General of Hospitals and Fleets Richard William Coppinger has been promoted to the rank of Inspector-General of Hospitals and Fleets in His Majesty's Fleet.

The following appointments are notified:—Staff Surgeons: W. Bowden, D.S.O., to the *Naiad*; J. Chambers to the *Collingwood*; and W. M. Craig to the *Hibernia* for the *Maine*. Surgeons: P. T. Sutcliffe to the *Hibernia* for the *Maine*; W. J. Stitt to the R.M.A. Portsmouth; and N. H. Harris to the *Australia*.

ROYAL ARMY MEDICAL CORPS.

Temporary Lieutenant James C. G. Macnab, Surgeon-Captain 1st Fifeshire Volunteer Artillery, is granted the temporary rank of Captain whilst serving in South Africa.

The War Office have decided to enlist a certain number of trained men for service in the Royal Army Medical Corps during the present war in South Africa. Enlistments will be for the period of one year, or, if the war lasts longer, for the duration of the war. In the event of the war being over in less than one year they will have the option of being discharged at once, or of completing one year's service. They must be not less than 20 nor more than 40 years of age, and though there will be no maximum limit of height they must be medically fit for active service. A fair knowledge of ambulance and nursing duties will also be required of them. Married men may be accepted and facilities will be given when possible for their families to join them in South Africa on the termination of hostilities should they desire to remain in that country. All men accepted will be enlisted as privates and will receive a gratuity of £5 at the termination of their engagement, in addition to any gratuity given to the troops at the end of the war. The rate of pay will be 3*s.* a day.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Durham Light Infantry: Laurence James Blandford to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Cameronians (Scottish Rifles): John Marshall to be Surgeon-Lieutenant. 1st Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant A. E. Morison resigns his commission. 2nd Volunteer Battalion the Highland Light Infantry: Surgeon-Lieutenant A. N. McLellan resigns his commission.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Surgeon-Lieutenant J. W. Smith to be Surgeon-Captain.

YEOMANRY CAVALRY.

Royal 1st Devon: Surgeon-Lieutenant Henry Goodwyn resigns his commission and is appointed Lieutenant.

SOUTH AFRICAN WAR NOTES.

Lieutenant A. Chopping, R.A.M.C., has been discharged from hospital to duty.

Lieutenant Taylor is reported to be improving (Howick, March 18th.)

Major A. T. I. Lilly, R.A.M.C., is returning to England in the *Pinemore*.

THE HEALTH OF THE NAVY.

The report of the health of the navy just published is mainly statistical in character, being mainly made up of figures, returns, and tables, together with summary statements of deductions therefrom. But it contains in an appendix a selection of the more instructive reports which medical officers of the navy have furnished to the Admiralty. Among the most interesting of these is Surgeon J. G. Fowler's *résumé* of medical facts in connexion with the Naval Brigade at Ladysmith. The total number of deaths out of the Brigade of 284 men and officers was 37, and out of 19 officers 17 at different times were on the sick list.

The health of the navy, as a whole, during the year 1899 was good, and as the figures could not be more succinctly given than they are in the report itself we cannot do better than quote it.

> The aggregate number of cases of disease and injury recorded for the year furnishes a ratio of 879·63 per 1000, which is the lowest obtained since the year 1856. Compared with the ratio for 1898, it shows a reduction of 26·46 per 1000, and with that of the previous two years a reduction of 20·82.
>
> All the stations, excepting the North America and West Indies, Pacific, and China, show a reduction in the ratio of cases as compared with 1898.
>
> The invaliding ratio of the total force, viz., 27·64, also shows a reduction when compared with the previous year, and with the average of the last two years, in the former case of 1·22, and in the latter of 2·78 per 1000.
>
> The death-rate per 1000 was 5·41 and shows an increase of 0·5 per 1000, as compared with that of 1898, which was 4·91.
>
> 129 cases of wounds in action are returned, 24 proving fatal. 117 of these occurred in South Africa and the remaining 12 during the Samoan troubles.
>
> On the home station 11 cases of cerebro-spinal fever, all of which terminated fatally, are recorded.
>
> Malarial fevers show a decrease, contrasted with 1898, especially on the Cape of Good Hope and West Coast of Africa Station, which shows a reduction of 170·46 per 1000 in the ratio of cases.
>
> The ratio per 1000 of cases of primary and constitutional syphilis shows a reduction of 5·98 compared with the ratio for the previous year.
>
> The total force in the service afloat, corrected for time, in the year 1899 was 89,180, of whom 54,880, or 61·53 per cent., were between the ages of 15 and 25; 25,270, or 28·33 per cent., were between the ages of 25 and 35; 7480, or 8·38 per cent., were between the ages of 35 and 45; and 1550, or 1·73 per cent., were 45 years of age and upwards.
>
> The total number of cases of disease and injury entered on the sick list was 78,448, which is in the ratio of 879·63 per 1000, being a decrease of 26·46 per 1000 compared with the previous year, and of 20·82 per 1000 when compared with the average ratio of the last two years.
>
> The total number of persons invalided was 2465, which is in the ratio of 27·64 per 1000, and shows a decrease of 1·22 per 1000 compared with the previous year. Of the above total 1760 persons were finally invalided from the service, giving a ratio of 19·73 per 1000 for the whole force, or 71·39 per cent. of the number invalided, showing an increase of 0·94 per 1000 compared with 1898.
>
> The number of deaths was 483, which gives a ratio of 5·41 per 1000, and exhibits an increase of 0·5 per 1000 in comparison with 1898, and of 0·34 on the average of the last two years.

AFFAIRS IN SOUTH AFRICA.

The armistice with General Botha has, to the deep regret of most people, proved futile; it has led to no satisfactory conclusion. General Botha has informed the British Commander-in-Chief that his terms of peace cannot be accepted. The war, if war it may still be called, must therefore go on. The public and the military critic in this country wonder why it is not finished, but it is the hardest thing possible to track and to dispose of an enemy in a waste of veldt who never stays to fight and whose sole object is to make raids on the relatively weak posts scattered over vast lines of communications and then to disperse and reunite. But the systematic surrounding of large areas and sweeping-in process after the manner pursued by fishermen with their nets must tell in the end, however rarely we may inclose a great multitude of Boer fish. The plague is not making any very active progress at the Cape, but the continued and increased mortality among the rats has a nasty significance. Inoculation for plague is being extensively carried out, and has, indeed, been made compulsory. A large number of the native population have been camped out on the Cape flats and energetic attempts have been made to cleanse and to improve the sanitary state of some of the worst and most overcrowded districts. A case of bubonic plague has been found on board the *Roslin Castle* at Durban in the person of a trooper from Capetown and all precautions are being taken. We trust that the efforts of the charitable in this country will not slacken, for our troops in the field, owing to the stormy and wet weather, have been having a bad time

of it of late and they will soon be in need of ample supplies of clothing for the cold weather on the veldt.

THE BRITANNIA.

A medical board, consisting of Sir Henry Norbury, K.C.B., Director-General of the Medical Department of the Royal Navy; Dr. J. W. Fisher, Inspector-General of Hospitals and Fleets; Mr. A. W. May, Fleet Surgeon, R.N.; and Professor W. H. Corfield, Consulting Sanitary Adviser to His Majesty's Board of Works, have issued a report upon the recent sickness on board the training ship *Britannia*. The report finds the position of the *Britannia* in the mouth of the Dart salubrious and the wood of which the *Britannia* and the auxiliary ship *Hindostan* is built to be apparently quite sound, the air of the holds was sweet, and the bilges all that could be desired. The admissions on the sick list from diseases which may depend upon the sanitary condition of the ships have shown steady diminution during the past five years. From these and other circumstances the board have come to the conclusion as the result of their investigations that the recent outbreak of influenza among the cadets was introduced from without and had nothing whatever to do with the sanitary condition of the ships. Certain slight alterations in the ventilation and sanitary arrangements of the ship which the board have recommended are to be carried out at once so as to admit of the return of the cadets on March 30th. The Admiralty have made the report public to correct widespread but erroneous impressions.

WESTERN COUNTIES CONVALESCENT HOME FOR SOLDIERS, COMBE DOWN, BATH.

A meeting of the supporters of this institution was held recently at Bath under the presidency of the Mayor. General Ian Hamilton, C.B., gave an interesting address, and Colonel Steele, R.A.M.C., spoke of the admirable work that the home was doing. On the proposition of the Rev. Canon Quirk it was resolved that the home, which was established in January, 1900, and had rendered invaluable service to the soldiers, should be still carried on for at least another 18 months, and that £700 should be raised by subscriptions, which, with the amount already collected, will be required to maintain the convalescent home for that period.

THE PRINCESS CHRISTIAN COTTAGE HOMES FOR DISABLED SOLDIERS AND SAILORS.

A special appeal has been issued for the endowment of beds in these homes as a memorial to Prince Christian Victor. The homes are for men discharged from the army paralysed, crippled, or disabled and unable to earn their livelihood, and at the present time there are many sufferers from the South African and other wars for whom accommodation cannot be found. It is for those who are permanently disabled that provision is now required.

THE NEW MILITARY STATION HOSPITAL AT PORTSMOUTH.

The new military station hospital which is to be built at Portsmouth will be one of the finest institutions of the kind in this country. The hospital, which will be situated on an elevation of nearly 1000 feet above the sea level, will have a sea view on three sides, and will stand in grounds of about 40 acres.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—A meeting of the Northern and Midland Division of this association will be held at the Leicester and Rutland Asylum, Leicester, on Wednesday, April 3rd, 1901. Mr. Rothsay Stewart will read notes on "Two Cases of Insanity Following Chorea" and "A Case of Rodent Ulcer treated by X Rays." Dr. A. Miller (Hatton Asylum) will open a discussion on the Improvement of our Methods of Obtaining Information on Matters of Asylum Administration and the Advantages of Establishing a Bureau in connexion therewith. The asylum is about one mile from Leicester Station and Mr. Stewart invites members to lunch at the asylum at 1.30 P.M., when he will take them round the wards at 2.30. The meeting is fixed for 4.30 and there will be dinner at the Grand Hotel, Leicester, at 7.30, when morning dress will be allowed. Members intending to dine at the hotel and members accepting Mr. Stewart's invitation to lunch are requested to communicate by March 29th to Mr. Rothsay Stewart, County Asylum, Leicester.

Correspondence.

"Audi alteram partem."

PRINCE CHRISTIAN VICTOR MEMORIAL.

To the Editors of THE LANCET.

SIRS,—Will you allow us to appeal for assistance in carrying out the following project which was organised towards the close of last year?

The sympathy evinced by our lamented and revered Queen Victoria in all the personal sorrows of her people arising from the South African war had awakened a warm and grateful response in the hearts of the public, and it was then resolved to give expression to this all-pervading sentiment and in some measure respectfully to reciprocate the sympathy which had been shown by establishing a permanent memorial of the grandson of the Queen, Prince Christian Victor of Schleswig-Holstein, who died in the service of his country in South Africa.

Although the circumstances under which this tribute would have been paid are so sadly altered, the love and gratitude of the nation are only intensified, and the fact that our beloved Sovereign took the greatest interest in the proposed memorial and that it was one of her last wishes that it should be a success not only makes it impossible to withdraw the plan of a collection, which might otherwise seem inopportune at the present time, but adds a pathos to the appeal which cannot fail to insure its favourable reception throughout the country. It is proposed that the memorial shall take the form of a fund for founding and endowing beds in the Princess Christian Cottage Homes for Disabled Soldiers and Sailors. This would be in harmony with the spirit and aims of the young Prince who always had the interest of soldiers at heart.

Donations and offers of assistance in collecting may be sent to the honorary organising secretaries, office of the Prince Christian Victor Memorial, Horse Guards, Whitehall, S.W., or to the Memorial Fund at Messrs. Lloyd's Bank, 16, St. James's-street, S.W. Donations and collections will be acknowledged in the press.

We are, Sirs, yours faithfully,

(Signed) ROBERTS, F.M.,
President of the General Committee.

(Signed) REDVERS BULLER, Genl.,
Chairman of the Executive Committee.

Office of the Prince Christian Victor Memorial, Horse Guards, Whitehall, S.W., March 14th, 1901.

"THE DUTIES OF HOUSE SURGEONS AT THE EAST SUFFOLK AND IPSWICH HOSPITAL."

To the Editors of THE LANCET.

SIRS,—Allow me to thank you for your leading article in THE LANCET of March 16th and to suggest that the profession make a testimonial to the young surgeons who are suffering for making a most proper stand for the sacredness of knowledge obtained professionally. The public also have an interest in supporting those who suffer for maintaining that a surgeon is right to refuse to speak of what he learns of a person who comes under his professional care unless distinctly requested by the person concerned to do so.

If you will open a subscription list for this purpose I shall be happy to contribute two guineas and help in any way to maintain the doctrine that the press should seek information from *anyone* but a medical man professionally concerned, who is *the only* person bound not to know anything.

I am, Sirs, yours faithfully,

Framlingham, March 18th, 1901. GEO. E. JEAFFRESON.

To the Editors of THE LANCET.

SIRS,—In Dr. Kay's letter published in THE LANCET of March 16th, p. 816, there are two inaccuracies relating to me which, no doubt, were unintentional on his part but deserve correction. In my interview with the house surgeons I did not *demand* that they should see the reporters of this journal nor did I say that "the *paper* must be run." I asked that they would please see

the reporters or leave them the information, as previous surgeons had done, in order that accidents treated at the hospital could be reported, thereby bringing the benefits conferred upon the injured before the public as "the *institution* must be run." This paper does not depend for its existence upon the news obtainable from the hospital, but I believe that institution is largely benefited by the publicity the press gives to its work.

I am, Sirs, yours faithfully,

THE EDITOR OF THE "EAST ANGLIAN DAILY TIMES."

Ipswich, March 19th, 1901.

TO MEDICAL FREEMASONS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of your valuable journal solicit the votes and interest of your Masonic readers on behalf of Doris Sall, aged nine years, daughter of E. W. H. Sall, M.R.C.S.Eng., till recently in practice at Southsea. He has been compelled to relinquish practice and to go on a sea voyage owing to the complete breakdown of his health, and is anxious to secure the election of his little girl to the Royal Masonic Institution for Girls at the election in April. Any votes will be thankfully received and acknowledged by

Yours faithfully,

J. ERNEST LANE,

Secretary, Sancta Maria Lodge, No. 2882.

46, Queen Anne-street, W., March 17th, 1901.

BENEFICIAL EFFECT OF OXYGEN IN PNEUMONIA.

To the Editors of THE LANCET.

SIRS,—I read the record of the case by Mr. A. Bradburne in THE LANCET of Dec. 15th, 1900, p. 1730, with much interest, as I thoroughly endorse his views on the benefit of oxygen in severe cases of pneumonia. The following occurred in a relative in my own home and was under my supervision continuously during the entire course. The patient was recovering from single lobar pneumonia when a relapse occurred, the disease breaking out afresh in the opposite lung. In spite of all treatment the patient got steadily worse and it was on a Tuesday afternoon the consensus of opinion of two medical men and myself that the case was practically hopeless—in fact, at the time the patient was almost moribund. The respirations were hurried and gasping, the lips were cyanosed, and none of us expected but that an hour or two would see the end. At this stage a tank of compressed oxygen containing 600 gallons, which had been ordered early in the morning, arrived (oxygen 79 per cent. and nitrogen 21 per cent., the exact opposite of the atmospheric proportion). I administered the gas for 10 minutes, when the respirations became normal, all cyanosis disappeared, and the patient sank into a quiet sleep, which she had not done for two days. In about 15 or 20 minutes the respirations began to quicken and the gas was applied to the nostrils, when breathing again became natural. In about another 20 minutes the patient awoke, said she that felt much better, and took some peptonised milk and champagne. For some hours previously all nourishment had been refused. The patients continued to improve, but the oxygen was administered day and night with no interval longer than an hour. At each administration the gas was stopped on the respiration becoming normal. For the first three days the improvement was marked. Food was taken with relish, even to a few raw oysters, which were longed for and given. During this time strychnine and digitaline were administered with brandy and champagne. On Saturday evening a change for the worse took place and the patient gradually failed. The oxygen was still kept up, and on the following Wednesday (eight days after the first administration) the patient died. Some hours before death she said that she felt something give way inside which on post-mortem examination was found to be an abscess of the left bases which burst into the peritoneal cavity. There is no doubt that this patient was kept alive for eight days by the oxygen, nine tanks of 600 gallons each being given during that time. This was a case of double pneumonia, the right lung being involved two weeks before the left. The patient also suffered for years from mitral stenosis and was very thin. Dr. H——, who had been in practice 50 years, said that he would always in future use oxygen in all severe cases of pneumonia, he never having seen it given so frequently before, and we three practitioners were unanimous in our opinion that the patient would have died that Tuesday afternoon but for the use of the oxygen. The oxygen was supplied by the Walton Company, New York city, where the case occurred. There it is always used mixed with 21 per cent. of nitrogen to 79 per cent. of oxygen, as in its pure state it is too irritating and cannot be administered but for a few moments, whereas the above mixture can be repeated as required with seemingly no bad effects when judiciously given. I have often had recourse to it and have yet to see the case where its effects were hurtful. Of course, it requires (like an anæsthetic) some practice to learn when to withhold and when to re-administer it. In 1898 a celebrated English author was taken ill with pneumonia in New York City. It was applied in his case and his condition to-day is only another proof of its benefit.

I am, Sirs, yours faithfully,

ARTHUR A. COTTEW,

L.R.C.S.I., L.R.C.P. Edin., M.D. Bellevue, New York.

"LEGISLATION AGAINST NATIONAL INTEMPERANCE."

To the Editors of THE LANCET.

SIRS,—Dr. H. Laing Gordon's letter in THE LANCET of March 2nd is facetious but scarcely helpful. It may be a doubtful point whether "alcoholic nervous instability" can be transmitted from parent to child, but it is a fact that habits of intemperance in either parent tend inevitably to produce conditions which act unfavourably upon the children and interfere with the healthy development of both mind and body. I imagine that Dr. Gordon will agree that alcohol is capable of producing a condition of mental instability in those who, previously to their having acquired a taste for alcoholic drinks, were strong and healthy people, capable of reacting normally to their environment. Some time ago Dr. Pye-Smith pointed out to us that the cause of the nervous breakdowns we so frequently see in business men was not the wear and tear of work but the wear and tear of whisky. We have to recognise the fact that the public has a firmly-rooted belief in the general usefulness of alcohol both as a remedy in disease and as an article of diet. In all classes of society we constantly come across the idea that whisky is good for gout and rheumatism and that a mother cannot nurse her infant without the help of a plentiful supply of "nourishing" stout. For these ideas medical opinion in the past must be largely responsible, and if they are now proved to be false it is our duty to put the facts clearly and authoritatively before the public and insist upon having them included in the instruction given to the children in all our State schools, as I believe has been done in the United States with very encouraging results.

It may be true that legislation can never make a man sober, but, Sirs, I agree with you that a great deal can and ought to be done to prevent his drunkenness. The good results of shortening the hours for the sale of intoxicating drinks you, Sirs, have brought before us. There are two other reforms for which we, as medical men, might agitate—namely, the exclusion of children from public bars and the abolition of the office of barmaid. (In the United States women are not allowed to serve as barmaids and all attempts to introduce "real English barmaids" have so far been frustrated.) That the work of retailing intoxicants is as deadly as that of other occupations from which women have already been excluded by the State needs no demonstration.

I am, Sirs, yours faithfully,

London, W., March 6th, 1901. M.D., B.S. LOND.

THE HOUSING PROBLEM.

To the Editors of THE LANCET.

SIRS,—You have recently published four articles on the question of the housing of the working classes and the poor in London; the London County Council has issued a large volume containing particulars of its own work in dealing with the problem; the County Council was in December vigorously attacked by Mr. Charles Sheridan Jones in the *Fortnightly Review*; in the following month the chairman of the Housing Committee of the London County Council replied to Mr. Jones; and in the *Fortnightly Review* for February Mr. Jones returned to the attack. Those who have read your articles and those who in addition have digested the materials upon which they were founded or who have

otherwise studied the matter will be aware that the problem is already one of such magnitude that it may well seem to some insoluble, and that it does not diminish in difficulty because the influx of workers to London continues and because the poor displaced from insanitary areas never, apparently, find healthy dwellings erected for the accommodation of their full number to take the place of those pulled down.

The growth of the population and overcrowding perplexed Parliament in the days of good Queen Bess. In the thirty-first year of her reign it was enacted that no cottage should be erected in a rural district with less than four acres of land attached and that no cottage should be occupied by more than one family. This statute, typical of an age when all had elbow-room, stood till 1775, when it was repealed on the ground that it put the industrious poor in a difficult position and tended "very much to lessen population." Even in the reign of Queen Elizabeth London caused particular anxiety, for four years after the last Act mentioned was passed another forbade the erection of new buildings within three miles of London or Westminster or the conversion of one dwelling-house within the same area into more than one. This statute was only repealed by the Statute Law Revision Act of 1888, so that it must have been tacitly ignored for centuries—a parallel perhaps to the silent indifference with which more modern and more practical laws dealing with much the same subject have from time to time been treated.

It is not necessary to endorse all that Mr. Jones writes with regard to the County Council. Accusations not only of fatuity and ineptitude but of dishonesty and criminality, accompanied by comparisons with the methods of Tammany Hall, savour of vulgar abuse rather than of serious criticism, and it is easier to say that the London County Council might have done more than it has done than to define precisely the course which it ought to have pursued. Undeniably, however, the problem presented by overcrowding in London has been before the nation more or less prominently since Lord Ashley, afterwards more widely known as Lord Shaftesbury, drew attention to it in 1851, and very little has been *done* with regard to it, however much may have been suggested, or however much public bodies may have been empowered to deal with it. The County Council contributes its figures. The chairman of its Housing Committee says that Mr. Jones understates them, and taking them at their highest point they only show that the Council has re-housed between 20,000 and 30,000 persons, and as Mr. Charles Booth in his valuable statistical work ("Life and Labour of the People in London"), published in 1892, estimated the numbers of the lowest class of the population at 37,610, of the "very poor" at 316,834, and of the "poor" at 938,293, and as 128,000 families of from four to 12 persons live in single rooms it may be pretty safely assumed that what has been done does not substantially affect the mass of those living in insanitary conditions even if we add to houses and common lodging-houses directly due to the efforts of the Council those wholesome dwellings which have originated in private benevolence and private enterprise. The newly constituted borough councils of the metropolis may avail themselves, each within its own limits, of Part III. of the Housing of the Working Classes Act of 1890—that is to say, they as well as the County Council may acquire land and build houses for the working classes upon it and may possibly in years to come enjoy the privilege of being blamed if overcrowding still continues within their borders.

One thing before all must, however, be remembered by those who criticise the action of county council or borough council in availing itself of the powers given it (the exercise of which is optional) to expend or risk large sums of money in becoming the poor man's landlord. These bodies are representative, and elective, with frequently recurring elections. If county council or borough council declines to incur financial risks that are not compulsory, some part of the blame, if any there be, must fall upon the county or the borough at large. Mr. Jones who so freely censures the County Council might find no difficulty in securing election to it in a district deeply interested in its own insanitary condition, and yet might not be able to secure a majority of councillors elected from other districts of the great county of London to support such a programme of wholesale activity as he might successfully have laid before his own section of the electorate. Even if he secured such a majority he might still fail to gain the assent of the Treasury to the raising of loans on a scale of sufficient magnitude to give effect to his views.

It must be confessed that the outlook is not a bright one. Apart from other questions suggested the work to be done seems too great to be undertaken by the committees of councils which are composed of voluntary unpaid workers of varying degrees of intelligence, information, and zeal. Parliament has for the time shelved the question as far it concerns itself by giving certain powers to other bodies which they may or may not exercise. These bodies will have done something which they have not done yet when they have clearly shown that houses and lodgings for the poor can be provided and maintained under sanitary conditions so as to offer a small but fairly certain dividend upon capital supplied not for purposes of charity but as an investment, and a step will have been taken in the right direction when it has been proved by active enforcement of the law that the letting of houses under insanitary conditions is not only unprofitable but financially disastrous. Investors are satisfied with low rates of interest nowadays if their security be only tolerably good; the prices of scores of ordinary stocks of railways and commercial undertakings liable to grave fluctuations prove this. Where losses are made either by public bodies or private persons the transaction, if it continues at all, becomes one of charity and the housing of the poor of London by charity cannot be regarded as either desirable or practicable, however much charity may assist as a pioneer of the movement.

I am, Sirs, yours faithfully,

March 14th, 1901. INNER TEMPLE.

THE METHODS OF THE ANTI-VIVISECTIONISTS.

To the Editors of THE LANCET.

SIRS,—A few days ago I had the misfortune to lose a favourite cat and with a view to getting him back I inserted an advertisement in the daily press. On the evening of the day upon which the advertisement first appeared I received by post a large envelope addressed, "To the owner of the lost cat." The envelope contained a choice selection of literature which I forward for your inspection and which apparently emanates from the Surrey Branch of the British Union for the Abolition of Vivisection. The first document I looked at was headed, "The Climax of Human Selfishness," and I own I was puzzled, for I could not see that it was selfish either to keep a cat or to lose him. I read on and came to a leaflet entitled "Enteric and Typhoid in South Africa." Still I was unenlightened, but I looked further and came to sundry pamphlets, in which were quoted experiments by Mr. Frederick Treves, Mr. Walter Edmunds, and Dr. Rose Bradford. Then it flashed across me that the B.U.F.T.A.O.V. wished to convey to my mind that some, or all, of these eminent men of science had presumably stolen my cat for the purpose of experiment. I can draw no other inference from the contents of the envelope, and I have sadly come to the conclusion that Mr. Treves is at fault. When he was away in South Africa the cat was safe. On his return the cat disappears. Comment is needless. My argument may not perhaps stand strict examination by the laws of the syllogism, but it is quite as convincing as the following argument which you will find in the leaflet entitled "Enteric and Typhoid in South Africa." Concerning anti-toxins the pamphlet says: "To show the absurdity that prevails, diphtheria antitoxin is made by passing it through the horse. *The horse never has diphtheria.*"

I am, Sirs, yours faithfully,

March 15th, 1901. M.B.

PS.—The cat has come back. He has a scratch under his chin and a bald spot on the back of his head. I am waiting to see what fell disease will develop.

"THE ROYAL ORTHOPÆDIC HOSPITAL."

To the Editors of THE LANCET.

SIRS,—The letter published in THE LANCET of March 9th, p. 739, from a governor of the Royal Orthopædic Hospital told a strange tale, but during the week that followed events have taken place which enable me to tell a stranger and more startling story.

On March 14th—I have it on the best authority—a small committee meeting was held at the hospital. Without previous notice an offer of £37,700 was

brought forward. Two members voted in favour of accepting the proposal, two against, when the chairman, Mr. Ernest Flower, M.P., at once gave the casting vote in favour of sale. The sum of £37,700 means the sale of the hospital on a basis of 29 years' purchase at a rental of £1300. At the general meeting on Feb. 18th Mr. Marks stated the value of the hospital was 30 years' purchase at £1500, or a sum of £45,000.

Will it be believed that at the committee meeting on March 14th, when it was decided to sell for £37,700, an offer was actually laid before them to rent the Hanover-square end of the hospital property at £1200 a year on lease? That would leave the more valuable Oxford-street end of the premises free for further letting. For the purpose of argument let us assume the Oxford-street end let on lease also at £1200, though £1500 is nearer its value, that would mean a yearly rental of £2400, or, capitalised at 30 years' purchase, a value of £72,000. This is probably not far off the present value of the property which the committee decided to sell for £37,700. Fortunately the Charity Commissioners have a right to intervene and it is to be hoped they will satisfy themselves of the facts above stated.

What should we think of gentlemen who dealt with their own property in such a way? Mr. Marks turned out the former committee because they wanted to sell the site for £28,000. His committee suddenly reversed that policy and have now determined to sell for £37,000. Mr. Marks ousted the old committee by votes that were by his own admission those of governors created for the purpose. He has largely relied on those votes for obtaining fuller powers at the annual meeting of Feb. 18th last. Surely, he should, under such circumstances, take no steps in the sale without the fullest deliberation and publicity.

It is to be hoped that in the interests not only of an old-established hospital, but also of the whole cause of the medical charities, that publicity will be given to the series of transactions that have been taking place at the Royal Orthopædic Hospital. At the same time one may hope that THE LANCET will insist on an explanation from the Prince of Wales's Fund why they wished to force the Royal Orthopædic Hospital to sell the site. At the time when they urged that course it was actually proposed to accept £28,000 for the property. Did the Fund investigate the facts of the case before they accepted the serious responsibility of urging such a step? Happily, in these days the bar of public opinion is still a force in the land. I trust that THE LANCET may inform the public as to the unbusiness-like and unwise policy now being pursued by Mr. Marks and his friends at the Royal Orthopædic Hospital.

I am, Sirs, yours faithfully,

March 19th, 1901. HOSPITAL GOVERNOR.

THE ORGANISATION OF THE PROFESSION.

To the Editors of THE LANCET.

SIRS,—Perhaps it is not generally known that some of the large colliery sick clubs are endeavouring to impose on their surgeons that they should attend on obstetric cases for a fee of 10*s.*, instead of the recognised £1 1*s.*, which in all justice is small enough. It is about time that these unreasonable conditions should be erased from all contracts. I am quite sure that all we require is combination and fair discussion with selected committees from each side.

I am, Sirs, yours faithfully,

March 15th, 1901. A GENERAL PRACTITIONER.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The General Hospital.

THE one hundred and twenty-first annual meeting of the supporters of this hospital was held on March 20th. The report for 1900 dwells upon the loss by death of Sir John Jaffray who for 30 years was a member of the committee and gave valuable help in the management. Reference is made to the large number of enteric fever cases treated in the hospital; a limit of 36 beds was assigned last year to patients suffering from this disease, but this number is greatly inadequate, the list of those awaiting admission often exceeding 100 and rarely dropping below 50. There is every probability of the health committee aiding in the effort to deal with these cases by the opening of additional hospitals. The report further shows that the number of patients was 5211, an increase of 347 over the previous year. The out-patients were 60,866, or 238 more than in 1899. The number of operations is shown to be steadily increasing; thus in 1897 there were 1020 and in 1900, 1815. The financial record shows an adverse balance of £6291, the average income for the last three years being under £22,000 and the average expenditure over £24,000. An urgent appeal is being made for additional subscriptions to carry out the needs of the hospital and to obviate the curtailing of its beneficent work.

A Singular Case of Manslaughter.

At the recent assizes, held on March 18th, before Mr. Justice Ridley, a man was indicted for manslaughter under exceptional circumstances. Two men quarrelled, both being intoxicated, and the prisoner struck the deceased a blow in his left eye. The following day, his eye being painful, he was taken to the Eye Hospital and detained. It was found that the eyeball had been burst and an operation to remove it was necessary. Chloroform was administered by the resident medical officer at the hospital, but the man died during the operation. The judge remarked that the crime was manslaughter in law and that the cause of death was the blow and not the operation. The prisoner was sentenced to one week's imprisonment, to date from the commencement of the assizes; consequently he was liberated on the following day.

The Consultative Institute.

Dr. Ward Irvine, who resigned his post at the beginning of the present month, severs his connexion with this institute on May 21st. In the meantime there is an opportunity for an amicable understanding and a settlement upon just grounds of the differences at issue. At a recent meeting of delegates from the Hospital Saturday Fund Mr. Arthur Chamberlain remarked that the Consultative Institute had justified its existence and would go on. If it does it must go on under its true colours. It is useless to associate the scheme with philanthropic disguises or to speak of the dignity and self-respect of a certain class of the population. It is generally found that in a large city like this the inhabitants are sufficiently astute to protect their own interests apart from the sentimental considerations of self-elected patrons.

March 19th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Sale of Drink to Children.

THE Prestwich District Council, on the recommendation of the health committee, at their last meeting authorised the affixing of their seal to a memorial to Parliament to prohibit the sale of drink to children under 16 years of age. The Chorlton Guardians likewise have decided to support this memorial and to write to the Members of Parliament for Manchester asking them to support the Bill. The Salford School Board also are sending a petition to the House of Commons in favour of the prohibition of the sale of intoxicants to children under 16 years of age.

Police Ambulance Work.

On March 14th an interesting ceremony took place in the Manchester Town Hall. The Lord Mayor, in the presence of many members of the corporation, presented 267 medallions and certificates gained by members of the police-force for proficiency in ambulance work. Alderman Rawson, the chairman of the watch committee, proposed a vote of thanks to the mayor and pointed out that 828 members of the force held certificates from the St. John Ambulance Association while the force had rendered first aid in a great number of cases "many of which would have proved fatal had it not been for the prompt measures taken by the police. During the last five years 10,570 persons had been taken to the infirmary and other similar institutions or to their homes and 52 lives had been saved." Dr. G. H. Darwin, who has long taken a deep interest in the subject, seconded the vote of thanks and said that "ambulance work was next to godliness, it was a noble work"; and he has certainly acted up to his view and worked nobly for it.

Eating-Wagers.

Wagers of a specially disgusting character have become so common in this part of the country that they may

almost be said to be epidemic. The favourite subject just now is as to the ability to eat a pigeon a day for 14 days. It is popularly supposed that it takes 24 hours to digest one pigeon and that it is too great a trial to the stomach for it to endure 14 pigeons in 14 consecutive days. The imagination of the lower—i.e., of the more animalised—classes, which is much centred on the stomach, has been stimulated to a marvellous degree by these competitions. The "well-known publican," who is also a "familiar figure in football circles," encourages them, of course, because they bring together numbers of people who wish to see the pigeon-devouring hero, and the sight induces a great thirst. One of these men on the Saturday night before he ate his first pigeon devoured "one sheet of a popular football paper," and some three or four years ago this same man and a companion had a paper-eating contest which he won. The political views which he inwardly digested are not stated. He was to eat his last pigeon on Sunday night, March 17th, and was feeling so well that he asked for a brace of them to commemorate the occasion. That this kind of thing should be the pride and ambition of so many does not say much for the refining influence of the education about which such a parade is made, for the competitors in this high-class sport have, no doubt, gone through their "standards" in the regularly prescribed fashion. If so the best result of our system of education seems to be that it does not impair the appetite or enfeeble the digestion. The worst feature of the whole thing, perhaps, is the publicity given to such contests by a certain section of the press which panders too much to vulgar grossness of taste.

Schools for Feeble-minded Children.

In connexion with the School Board system for Manchester there is one matter in which all will agree. As is well known, among the thousands of children to be taught a certain number are more or less feeble-minded and unfit for the ordinary course of school work. It is therefore satisfactory to know that two schools are now being built with special provision for the needs of these children, one for 46 scholars and the other for 80 scholars. They are, like those in London and elsewhere, all on the ground floor, with separate entrances for boys and girls, with bathing accommodation and with everything necessary for the special requirements of these poor children. It is said that there are about 1000 of them in Manchester, so that more provision will have to be made.

March 19th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox at Cardiff.

THREE cases of small-pox were found on March 15th in a seamen's lodging-house in Cardiff. The patients, a sailor, a girl aged 14 years, and a boy aged four years, were removed to the small-pox hospital, where the sailor died on March 18th. The outbreak can be distinctly traced to cases which were removed from two ships at Barry about the middle of February.[1] A sailor from one of the infected vessels went to stay at the Cardiff lodging-house until Feb. 25th, when he left apparently well to join his ship, but as his papers have been returned it is possible that he has been attacked with some form of illness. Within a fortnight from Feb. 25th a sailor who has since died and the two children were attacked. The health committee are displaying commendable energy in their efforts to prevent the spread of the disease, spurred on possibly by the fact that the Royal Agricultural Show is to be held this year at Cardiff. Placards offering free revaccination are distributed and domiciliary visits of the public vaccinators are being made; while the inmates of the infected lodging-house and of the house where the infected girl was in service are both placed under observation. The corporation has not yet provided any house or houses into which persons who have been exposed to infection can be removed until the period of incubation has expired.

Port Sanitary Expenses.

The health committee of the Bristol Corporation have decided to renew their efforts to induce the Government to pay out of the Imperial exchequer the expenses incurred by port sanitary authorities in taking precautions against the introduction of cholera, plague, and yellow fever, on the ground that such expenses are incurred for the protection of the country at large.

Bristol Royal Hospital for Sick Children and Women.

This hospital was established in the year 1857 and has now, in addition to the 100 beds in the Bristol institution, a convalescent branch at Weston-super-Mare with accommodation for 28 patients. At the annual meeting of the supporters of the hospital held on March 16th it was stated that the income for the year (£3875) fell short of the expenditure by about £800. The accumulated deficits of the past few years have now reached £2300, an amount which it is hoped will be realised from a bazaar to be held in May. The number of in-patients treated during the year (631) was rather less than in some previous years, and the number of out-patients (4223) was considerably higher. In the dental department 450 patients were treated.

Bristol General Hospital.

At the annual meeting of the supporters of this institution, held on March 11th, it was announced that the following scholarships had been awarded: Clarke Surgical Scholarship of £15 to C. Corfield, Henry Marshall Prize of £11 to J. E Sparks, Lady Hoberfield Prize of £29 to A. E. Iles, and the Martyn Memorial scholarships, £15 to S. R. Williams and £5 to J. C. Norton.

Monmouthshire County Asylum.

At the meeting of the Monmouthshire County Council, held on March 13th, it was decided to erect a pathological laboratory and make other alterations in the asylum at Abergavenny at an estimated cost of £3000.

March 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Glasgow.

THE new cases admitted to hospital during the week ending March 17th numbered 92, and the cases remaining under treatment amounted to 420. In his report to the corporation Dr. A. K. Chalmers discusses the increase in the extent of the epidemic which has developed since Feb. 19th, and concludes that some influence which cannot be precisely determined led to an active dissemination of the disease at the end of the first week of February, and that the operation of this new factor was probably favoured by the seasonal conditions under which it occurred. In view of some efforts which have been made to discount the value of revaccination the medical officer states that no case of the disease has been admitted to hospital or is known to the health department in which revaccination had been performed before the disease was contracted. At the last meeting of the town council an attempt was made by one of the members to controvert this statement, but the Lord Provost insisted on its accuracy and drew attention to its public importance. The health committee has expressed satisfaction with the efforts that are being put forth to deal with the epidemic which still, as the above figures show, continues to give ground for anxiety. The scheme for securing a medical house-to-house visitation is being energetically prosecuted, more than 200 practitioners having responded to the invitation of the corporation to assist in securing effective revaccination for all citizens. A circular has also been issued to employers of labour throughout the city requesting them to use their personal influence with their workmen to promote revaccination. Some of the critics continue to call for a detailed report on the vaccination condition of all patients treated during the epidemic, but the pressure on the health officials renders this impossible, and an official statement has been made that such a report cannot be issued until the epidemic is thoroughly under control.

Glasgow University.

The meeting of the University Court on March 14th was occupied by a long and important discussion on the subject of clinical teaching and examinations. Dr. D. C. M'Vail, seconded by Sir John Cuthbertson, proposed that the court should invite the physicians and surgeons of the Royal Western and Victoria infirmaries to become examiners in the University. The avowed object of this proposal was to induce

[1] THE LANCET, Feb. 16th, 1901, p. 514.

the University students to take at least part of their clinical work in the Royal and Victoria infirmaries. Dr. M'Vail argued that the clinical classes of the university professors are much overcrowded whilst other clinical teachers are to a large extent neglected. This state of matters, he contended, is due to the fact that the professors have a predominating influence in the degree examinations. The various physicians and surgeons are already recognised as teachers whose classes qualify for graduation, and in order to promote a more equal distribution of students and to make clinical teaching more practical and effective he proposed that all these gentlemen should take part in the professional examinations for degrees. The Senate, who had been asked to report on the proposal, advised against it and an amendment adopting the view of the Senate was moved by Professor Adamson who expressed his sympathy with the desire to secure the clinical facilities of the several hospitals for the benefit of the students. He, however, refused to believe that the large attendance in certain classes was to be explained by the mere fact that the teachers were also examiners. He opposed Dr. M'Vail's proposal on the ground that its adoption meant the transference of the appointment of examiners from the University authorities to the governing boards of the hospitals. Whilst willing to consider any reasonable plan for restricting the size of clinical classes he could not assent to a scheme which would remove the control of the University from examinations which admitted to a university degree. On being put the amendment was carried by 5 votes to 4.—The Senate have resolved, at the graduation ceremony in April, to confer the honorary degree of LL.D. on Mr. Andrew Cecil Bradley, M.A., formerly Professor of English Literature in the University; Mr. Charles Scott Dickson, K.C., M.P., Solicitor-General for Scotland; and Dr. Arthur William Rücker, F.R.S., secretary of the Royal Society. From some statistics recently collected it appears that since women were admitted to graduation in the University 49 have taken the degree of M.A., 15 with honours, four have graduated in the science faculty, and 52 have taken the degrees of Bachelor of Medicine and Bachelor of Surgery. The special organisation and facilities provided at Queen Margaret College are evidently appreciated, as Glasgow can claim more medical women graduates than can any other Scottish University.

Meat Inspection in Glasgow.

A special committee of the town council has reported that in addition to the detective system of meat inspection at present in operation in the city it is necessary for the security of the public health to make further regulations for the examination of meat which is to be offered for public consumption. The committee advises the provision of suitable and convenient premises for such inspection and favours the proposal to provide some form of marking or stamp for meat which has been approved, so that firms using meat in large quantities may have a ready guarantee that no diseased meat passes into their premises. The need for some effective supervision is emphasised by a recent case in which the owner of a condemned carcass actually produced a certificate from a local veterinary surgeon stating the meat to be fit for human food, though on cross-examination he admitted that he was aware that the animal was diseased.

The late Dr. James Dunlop.

By the death of Dr. James Dunlop, a well-known figure has been removed from the medical world of Glasgow. Dr. Dunlop had reached the age of 67 years and had been engaged in active practice since he graduated at the University of Glasgow in 1857. His earliest experience was gained as house surgeon to Lord Lister in the Royal Infirmary, and almost from the outset he devoted his chief attention to surgical practice. At an early age he became Professor of Surgery in Anderson's College Medical School, a position which he held for more than 20 years. Until he retired a few years ago he also held the position of senior surgeon to the Royal Infirmary. For many years he displayed a keen and enthusiastic interest in the medical branch of the volunteer service; his first commission was dated November, 1860, and in 1890 he became Brigade-Surgeon-Lieutenant-Colonel to the Glasgow Brigade. Advancing age hardly checked his devotion to this work, and in January of last year he went out to South Africa, where he was appointed one of the surgeons to the Wynberg Base Hospital. His return in August was celebrated by a banquet, at which he gave a lively and incisive account of his experiences. In addition to his connexion with the Royal Infirmary, Dr. Dunlop was surgeon to the Lock Hospital and a governor of the Samaritan and Victoria infirmaries; in the promotion of the last-mentioned institution he took a prominent part. He was also for many years medico-legal adviser to the Crown, and in this capacity his name has been associated with many of the great criminal trials of the last generation. His other professional positions were largely connected with the Faculty of Physicians and Surgeons, in which he held at different times various offices, including those of examiner and visitor. To many Dr. Dunlop was known as an ardent sportsman and naturalist, and his letters descriptive of his fishing holidays on the Scottish coast contain many valuable observations on natural history and have a full measure of the saving salt of humour. Possibly Dr. Dunlop was concerned in too many directions to obtain great excellence in any, but his force of character secured wide recognition, and his genial and kindly disposition made for him a wide circle of appreciative friends. Dr. Dunlop is survived by his widow, six sons, and one daughter; one of the sons is at present serving as a civil surgeon with the army in South Africa.

March 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Dublin.

THE above title is almost paradoxical. The exceptionally high death-rate which has recently been notified in Dublin has caused much comment in the public journals and many letters and suggestions from the citizens. The wretched and overcrowded state of the tenement houses has long been looked upon as a foremost factor in the spread of disease. The matter is dealt with in a letter from Sir Charles Cameron in the *Irish Times* of March 19th, which contains some interesting statements and figures. The evil of overcrowding, he says, does not now largely exist, for the census which has just been taken in reference to the dwellings of 15,000 families occupying the lowest-class houses shows that the number of persons in those houses is in the ratio of 2·5 per room. This is a great improvement on the state of things disclosed by a similar census in 1881 when it appeared that 32,000 families occupied 48,000 rooms, or one family per one and a half rooms.

The Irish Workhouse Association.

The annual meeting of the Irish Workhouse Association took place in the Mansion House on March 8th and was to a large extent a medical function. The Right Hon. Lord Monteagle, K.P., the President, occupied the chair, and resolutions were proposed by Dr. T. Myles, President of the Royal College of Surgeons in Ireland, Sir William Thomson, Sir Philip C. Smyly, and Colonel Everard, D.L. Public attention was called to the fact that although the association has been but a comparatively short time in existence it has been the means by which a great deal of good has been effected. One of the speakers remarked that if the association had done nothing beyond inducing the Government to pay half the salaries of the trained nurses in workhouse hospitals it would have fully justified its existence. Sir William Thomson said that he was delighted to notice in the report that the Government had consented to a reform, and that the first step had been taken in the appointment of a medical inspector whose duty it would be not alone to look after the buildings, but also to see that the infirm and sick were taken the best possible care of.

The Royal College of Surgeons in Ireland.

At a meeting of the Fellows of the Royal College of Surgeons in Ireland on March 19th, Sir William Thomson and Mr. Robert H. Woods were elected members of the council to fill two vacancies.

The Royal University of Ireland.

A deputation from the Royal University of Ireland waited upon Earl Cadogan, the Lord Lieutenant of Ireland, on March 9th, for the purpose of requesting the appointment of a Royal Commission to inquire into the working of the Royal University as an examining and teaching body in relation to the educational needs of the country at large. After several members of the deputation had spoken his Excellency made a very conciliatory reply and stated that he had brought the matter before the Cabinet and that a Royal Commission would be appointed. Of course, a great deal will now depend

on those who may be appointed on this body, but as the Commission is a Royal one it is expected that there will be members from other parts of the United Kingdom than Ireland; indeed, many think it would be wiser to appoint no one from Ireland on it as sectarian and political bias is so rampant in this country at present, even in educational matters.

Ulster Medical Society.

The fifth meeting of the session of the Ulster Medical Society was held in the Physiological Laboratory, Queen's College, Belfast, on March 15th, the President, Professor W. H. Thompson, being in the chair. The President showed a convenient form of Kjeldahl apparatus for estimating the total amount of nitrogen and a new apparatus for making standard alkaline solutions. Dr. Robert Allen gave a demonstration of Microscopic Sections of Granular Cells in Tumours. Professor J. Symington gave a lantern demonstration of the Pre-natal and Post-natal Development of the Cerebral Hemispheres. Dr. R. J. Johnstone gave a demonstration of a series of pathological specimens mounted dry with glycerine in the lower part of the jars, which were hermetically sealed. Professor J. Symington and Dr. J. A. Craig showed (1) a specimen of Hypertrophy of the Nasal Turbinals (with lantern slides); (2) specimens of Cæca and Vermiform Appendices; (3) a Skull with Defective Tegmentum Tympani; and (4) an Impacted Fracture of the Neck of the Femur. Professor J. Symington and Dr. J. Tennant exhibited a Section of a Female Pelvis containing a Tumour. Dr. J. Lorrain Smith and Mr. Robert Campbell showed (1) a Congenital Cystic Sarcoma removed from a child three weeks old, and (2) a Sarcoma of the Upper Third of the Femur of a Child. Dr. Thomas Houston read a paper on Anæmia in a Case of Typhoid Fever. He first pointed out that enteric fever was one of the few septic conditions of the blood in which the number of leucocytes per cubic millimetre were decreased; that this decrease was due to an "apparent" decrease of the polymorphonuclear elements. The differential counts made in this case showed a high percentage of lymphocytes and large mononuclear leucocytes. The usual explanation of this disease as given by Ehrlich and others is that the toxins of the typhoid bacilli repel the polymorphonuclear elements (negative chemotaxis). The reader went on to adduce evidence from the determinations made in this case that this theory of negative chemotaxis was not applicable to typhoid fever. He showed that there were many reasons for believing that in typhoid fever there was a tendency to dilution of the blood and that this tendency would fully account for the peculiarities of the blood as illustrated by the differential counts given. He quoted a case of typical chlorosis which had apparently been set up by typhoid fever, and he pointed out that this disease was also one in which there was a marked dilution of the blood, as shown by the work of Dr. Lorrain Smith on Anæmia. The blood determinations illustrating the paper were those of patients in the Royal Victoria Hospital, Belfast. An interesting discussion followed in which the President, Dr. Lorrain Smith, Professor J. A. Lindsay, Dr. W. Calwell, and Colonel J. Moorhead took part.

Agmondisham B. Vesey, M.R.C.P. Irel., J.P.

I regret to announce the death of Mr. A. B. Vesey of Magherafelt, co. Derry, a practitioner who was much respected in the north of Ireland. On the evening of March 12th, while proceeding on his way home from the dispensary situated a short distance from his residence, he fell suddenly in an anginous attack and expired. During the past 12 months Mr. Vesey has been in declining health and in August, 1900, he was compelled to relinquish his duties as medical officer of the dispensary and workhouse for six months, and this leave of absence was further extended at the last meeting of the board of guardians. Mr. Vesey studied in Dublin, at the Richmond Hospital. He qualified in 1873 and was a Member of the Royal College of Physicians of Ireland and a Licentiate of the Royal College of Surgeons in Ireland. Returning to his native place, Magherafelt, where his grandfather was rector, he succeeded his father as medical officer of the workhouse and dispensary, and as physician to the fever hospital. Mr. Vesey was greatly respected by both rich and poor, who had the utmost confidence in his professional skill, and his sudden death is universally deplored. He was a J.P. for the county of Derry. He was buried on March 15, a large concourse of patients and friends following his remains to their last resting-place.

Samuel Doake, M.A., M.D. R.U.I.

I regret also to chronicle the death of a distinguished former student of Belfast, Dr. S. Doake, which occurred at his residence, The Hill, Dromara, co. Down, on March 14th. A very able student during his Queen's College course, Dr. Doake graduated M.D. of the Old Queen's University in 1862. He then entered the army, but residence in India so broke down his constitution, which was never a robust one, that he was obliged to retire on half-pay. Coming home he was appointed medical officer of the Dromara Dispensary, but this office he had to relinquish owing to ill-health. Since then he has lived in retirement with his children at The Hill, the house in which he was born. A great personal favourite, and a man of thorough ability, Dr. Doake was always handicapped by a weak physique. He was buried on March 16th.

March, 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Legal Action on Account of X-Ray Burns.

THE Civil Tribunal of Paris has just given judgment in a case which lasted for some time and which raised an interesting point as to the responsibility of a medical man. A lady named M—— prosecuted a medical radiographer for having, as she alleged, committed an error in having injured her by burns produced by the x rays. Madame M—— had suffered for some years from acute sciatica and on the advice of her family medical attendant she had consented to have her leg radiographed by Dr. B——, who gave her three sittings. The first lasted 40 minutes, the second 45 minutes, and the third one and a quarter hours. Before this last sitting the skin of Madame M——'s thigh was noticed to be somewhat red and inflamed from the preceding sittings. But although Madame M—— mentioned this Dr. B—— made light of it and went on with the third sitting of one and a quarter hours, at the end of which time Madame M—— had a burn of the third degree which confined her for four months to her bed. On this account she claimed 5000 francs damages from Dr. B——. Dr. Brouardel and M. Ogier, who had been nominated as expert witnesses by the tribunal, sent in a very remarkable report according to which Dr. B—— was not responsible for the damage. In their views the method of application in radiography is not yet formulated and no one knows the conditions which give rise to the fact that some patients are burned while others with even longer exposures are unhurt. In the same way it is impossible to foresee out of a body of men marching in the sun who will be affected by sunstroke. It was, however, to be regretted that Dr. B—— did not pay attention before the commencement of the long third sitting to the inflammation which had appeared after the second sitting. Despite this definite report the court gave Madame M—— the full damages asked for—namely, 5000 francs—declaring that Dr. B—— had acted imprudently, more like a workman than a medical man, and that his apparatus was defective. This judgment, however, is subject to appeal.

Subcutaneous Injections of Chaulmoogra Oil in Leprosy.

M. Hallopeau and M. du Castel have made known to the Academy of Medicine some results, founded on some researches of Tourtoulis Bey, which they had obtained in cases of leprosy by the use of chaulmoogra oil given by subcutaneous injection. If given by the mouth the drug was often badly borne and so its use had to be given up too soon, for it is a remedy which has to be employed for a long time to do any good. M. Hallopeau remarked that from the composition of the oil not being exactly known it was often supplied in an adulterated condition, whence the variable results and often-times the ill success obtained in the hospitals by this treatment. When the subcutaneous injections were well borne they gave in certain cases excellent results and even brought about apparent cure, but it must be remembered that cases of leprosy often underwent unexpected and spontaneous amelioration and that the injections were sometimes very badly borne. M. du Castel said that he had obtained good results in the tubercular form but practically no result in the nervous form. In his opinion the treatment should be reserved for the grave cases, for it was painful and like all oily injections was wont to produce, despite every precaution, painful abscesses or pulmonary embolism.

Alterations in a Water Service by a Landlord.

M. Bechmann, the Director of the Municipal Water-supply, has just brought before the Council of Hygiene the case of a landlord who had two concessions—the one for the supply of spring water for his kitchens and water-closets on the various floors of a tenement house and the other of river water to supply the public standpipe in the yard. From motives of economy he inverted his supply, so that the kitchens were supplied with river water and the tenants were compelled to go down to the yard to get drinking water. In the existing state of the law the administration is powerless to compel the landlord to reconvert his supply and the only thing to be done is for the tenant to bring an action in the civil court. M. Bechmann demands that the law which presents such glaring deficiencies should be altered.

Small-pox Inoculation in Algeria.

M. Hervieux recently drew before the Academy of Medicine a very sombre picture of the danger to which small-pox inoculation is giving rise in Algeria. According to a report by M. Trolard this abominable practice is making headway more and more among the natives. They refuse vaccination, despite all the efforts of the medical men, and prefer direct small-pox inoculation performed by native practitioners who inoculate with a lancet charged with variolous pus. Owing to this deplorable habit, which the French authorities try in vain to combat, small-pox is increasing rapidly among the Arabs and the mortality is going up, to say nothing of the numbers of maimed and blind who have to be looked after by the State, while as a final result the commercial relations of the colony are beginning to be imperilled. M. Hervieux argued that energetic measures must be taken and proposed that the Academy should lay down a rule that inoculation should be made a penal offence punishable by a fine in every French colony. A discussion, however, took place, M. Chauvel saying that the Academy could not formulate penal laws without going outside its proper rôle, which was advisory and scientific. M. Gautier considered that a fine was an insufficient punishment and suggested that compulsory isolation of small-pox patients, which being at once a kind of imprisonment and a valuable method of prophylaxis, would have greater weight in the eyes of the natives. Finally, the Academy left the choice of the punishment to the Minister concerned but insisted that small-pox inoculation ought to be sternly suppressed in French colonies.

The Title of Doctor of Pharmacy.

When some three years ago the responsible Minister created the new title of "Doctor of Pharmaceutical Science" there were not wanting many medical men who expressed a fear that this new diploma, which was intended to encourage higher education and study of pharmacy with a view to the student seeking a professorship or the post of expert, would also encourage the illegal practice of medicine already so largely indulged in by pharmacists, for the public, which considers that the term "doctor" means doctor of medicine, would be confused. At the time that the title was proposed the council of the University of Lyons reported very unfavourably upon the idea, but nevertheless the title was created. However, it was expressly laid down that the holder of the new title should not call himself simply "doctor" but always "doctor of pharmacy." All the same, that which had been foreseen happened and the new doctors constantly forgot to add the words, "of pharmacy." The President of the Association of Medical Men of the Seine made a formal representation to the syndical Chamber of Pharmacists in order to bring about the cessation of the abuse, but the pharmacists evaded the question, declaring that their Chamber had nothing to do with such matters. The President of the Association of Medical Men then applied to the responsible Minister and received the answer that in future the new doctors would be definitely instructed to use the precise terms of their diploma so that, in showing its purely academic character, all confusion with the title borne by practising physicians would be avoided.

March 19th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Death of Dr. G. M. Dawson.

DR. GEORGE MERCER DAWSON, C.M.G., LL.D., A.R.S.M., F.R.S., &c., who for many years had been director of the Geological Survey of Canada, died in Ottawa on the afternoon of March 2nd from acute bronchitis and *la grippe*. He was born at Pictou, Nova Scotia, on August 2nd, 1849, and was a son of the late Sir William Dawson, F.R.S., who for many years was the principal of McGill University. Dr. Dawson's work was mainly carried on in the North-West Territories of the Dominion of Canada and in British Columbia, where he investigated more particularly the relations of the cretaceous and the Laramie formations. He further contributed largely to our knowledge of the glacial phenomena which in Canada are so strikingly developed. In 1891 he was appointed one of Her Majesty's Behring Sea Commissioners and for his services in this connexion received the title "C.M.G." He was President of the Royal Society of Canada in 1894, and in 1897 he received a gold medal from the Royal Geographical Society, a well-deserved honour.

The Latest News from the Yukon.

During the months of January and February the residents of Dawson experienced some very severe weather. The lowest temperature recorded was that on Jan. 15th, when the thermometer descended as low as 68·5° F. below zero. For nine days the average minimum temperature was 60° below. With the onset of the intense cold that peculiar white mist which always accompanies it settled slowly down upon the city and valley until an object could scarcely be distinguished 50 yards away. To add to the discomfiture of the inhabitants an epidemic of rabies seized upon the dogs of the town, which became so widespread and alarming that they all had to be impounded for the protection of society. Then what might be called an epidemic of "typho-pneumonia" broke out and carried off many prominent and popular citizens. The pneumonia appeared first and developed after the usual fashion. Then as the crisis approached abdominal complications set in, resulting eventually in a fatal collapse. During the months of December, January, and February the death-rate from "typho-pneumonia" was extremely high.

Report on Leprosy in Canada.

In the annual report of the Minister of Agriculture appears the regular report of the officer having the medical supervision of the lepers at the Lazaretto, Tracadie, New Brunswick, Dr. A. C. Smith. From this it appears that there are to-day in that institution 20 inmates—13 males and seven females—whose ages range from 19 to 64 years. Seven of the inmates are classified as being in the first stage of the disease, 12 in the second, and one in the final stage of the malady. During the official year there were four deaths, and three new cases were admitted from the surrounding districts. Dr. Smith was successful in inducing several of the less advanced cases to make a trial of chaulmoogra oil and creolin in treatment, and reports encouraging results. Whilst the Director-General of Public Health, Dr. Frederick Montizambert, was in British Columbia during the past summer he visited Darcy Island unofficially, where are confined five more lepers, all Chinese males. One of these is maintained by the province of British Columbia, and one each by the municipalities of Vancouver, Victoria, Kamloops, and Nanaimo. This comprises the extent of leprosy in Canada at the present time.

Path logical Studies at William Head Quarantine Station.

During the past summer Mr. Charles H. Higgins, B.S., D.V.S., late official pathologist at William Head Quarantine Station, made an interesting study of the bacillus pestis bubonica. His morphological description of the plague bacillus is as follows. It is a short, thick, straight rod, with rounded ends. In length it varies from 0·7 to 1·2 millimetres and is half as broad. The bacilli sometimes occur in chains and have been observed in some cases to have a capsule. In fresh broth cultures they are often seen in chains resembling streptococci. In old cultures they sometimes completely lose their elongated shape and appear as cocci. The germ takes the polar staining, leaving an unstained central portion. In unstained preparations and in the hanging drop this polar arrangement of the protoplasm is noticed. The form of the bacillus varies greatly according to the media upon which it is grown and also upon its age. Descriptions of cultural characteristics and observations on the inoculation disease in guinea-pigs, with symptoms and pathological lesions, also appear in the report.

Report of the Lunatic Asylums of the Province of Quebec.

The last official report on the asylum population shows

that there were 2961 of these unfortunates in the province, and the cost of maintenance is put down at $314,157·48 per annum, both figures showing an increase of those over the previous year. The report goes to show that the material and hygienic conditions of the three principal asylums of the province—Quebec, Verdun, and Longue Pointe—are in a very satisfactory state at the present time. The percentage of cures on the admissions of the past year has been somewhat less in each of the asylums of the province than it was last year. In 1898 Longue Pointe showed a percentage of 27·35 and in 1899 25·8; Quebec, 41·62 in 1898 and 31·75 in 1899; and Verdun, 43·63 in 1898 and 33 33 in 1899.

Canadian Association for the Prevention of Tuberculosis.

The conference summoned by His Excellency the Governor-General, Lord Minto, met in Ottawa on Feb. 14th and organised the above association, with the Governor-General as honorary president and Sir James Grant (Ottawa) president. Prominent medical men were present as delegates from each of the provinces. Amongst other questions discussed was that of Government aid to sanatoria, the tuberculin test as affecting the cattle-breeding business of the country, and the prevention of tuberculosis on the Indian reserves in Canada. The question of tuberculosis in immigrants was also taken up. Along these lines resolutions were adopted, and an organised effort may now be expected to be put forth in Canada for the prevention of tuberculosis in all its widespread ramifications. The association appointed a committee to confer with the Dominion Government as to the advisability of creating a department of public health.

News Items.

For the first time in the history of the Newfoundland sealing fleet physicians will accompany it. The fleet numbers about 6000 sailors and leaves St. John's on March 9th. Dr. Roddick, M.P., made the arrangements and the following are the names of the physicians from Toronto and vicinity who volunteered for the service: Dr. McWillie Martindale, Dr. W. F. Adams, Dr. McKinnon, and Dr. E. H. Stafford. No Montreal men were available.

While working in the laboratory of Professor Ruttan of McGill last week a first-year medical student from Prince Edward Island had the misfortune to have one of his eyes destroyed. In the test tube was some sulphuric acid and alcohol which frothed up in his face when presented to him for inspection by a neighbouring student.

The province of Ontario is on the verge of a small-pox epidemic. The disease is now located in some 15 centres and something like 100 cases have been reported, with two deaths. In the neighbourhood of Montreal there are six cases and the health authorities of that city are making strenuous efforts to keep the malady outside the city limits. The health officer of Montreal is prosecuting a vaccination crusade.

The Toronto Dental Society held its first annual clinic on Feb. 25th and 26th. Two features of the meeting were the "X Ray in Dentistry," by Dr. Price of Cleveland, U.S.A., and the "Surgical Treatment of Cleft Palates," by Dr. Truman W. Brophy of Chicago. Dr Brophy described and demonstrated his operation at the Hospital for Sick Children before the leading dental and general surgeons of the city. He has operated on over 200 patients under five months of age with complete success.

Dr. Campbell Davidson, son of the Hon. Mr. Justice Davidson, has been appointed medical officer of the ss. *Montfort*, which left Liverpool on March 1st for Halifax to transport the Canadian contingent of General Baden Powell's police-force to South Africa.

March 6th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

An American Physician made a Major-General.

DR. LEONARD WOOD, who commanded the Rough Riders in the Cuban campaign of the Spanish-American war, and who is at the present time Military Governor-General of Cuba, has been appointed by the President a major-general in the United States army. General Wood up to the time of the war with Spain had seen no active service as a soldier, although he had fought in the West in frontier warfare against the Indians. His promotion is said to have given rise to much heart burning in army circles, as it is considered unfair that a man who is virtually not a trained soldier should be thus put over the heads of men who have been in the army the greater part of their lives. Of course, such a procedure would be impossible in any other country than the United States, but notwithstanding its novel nature it may prove a wise step after all. General Wood has shown himself able and capable in whatever position he has been placed. He was an excellent physician, and probably had he elected to continue in practice he would have risen to a prominent rank in the profession. In the Cuban war, as colonel of the Rough Riders, he by no means disgraced himself, and as military governor of Cuba he has gained golden opinions on all sides. It has been mainly owing to his well-directed efforts that the large towns of that island are becoming metamorphosed from sinks of filth into fairly sanitary places of residence. It may be said, too, that the Cuban war, and to a still greater extent the South African war, have demonstrated the fact that to be a successful leader or soldier it is not always necessary to be a trained military man. In South Africa the colonials have fully held their own with the regular troops, and the same thing may be said as regards the volunteers in the Philippine Islands. It would, however, be somewhat curious if a man who was a physician until he was 40 should become the officer of highest rank in the United States army.

The Coming Exposition at Buffalo.

It is anticipated that the Pan-American Exposition, which will open at Buffalo on May 1st, will be a great success. A better situation for a large exhibition could hardly have been chosen. There are few more beautiful or picturesque cities in America than Buffalo both in itself and its surroundings. Niagara is within easy distance (about 20 miles) and can be reached by rail, electric cars, or by boat. Another strong point in favour of Buffalo is that it is only nine or 10 hours' ride by rail from New York and is connected with that city by no less than six lines, among these being the Grand Central and Lehigh Valley. Thus visitors from Europe will not be put to the inconvenience of a long and tiresome railway journey. The accommodation, both in the hotel and boarding-house lines, is probably better in Buffalo than in any town of its size in the United States. It is estimated that with the hotel buildings now in existence and those in course of construction the hotel accommodation of Buffalo is about 20,000. This, it is said, will be added to by 10,000 before May. The Statler Hotel, adjoining the Exposition grounds on the south, is now being built. It will be a temporary structure and will afford accommodation for 5000 people. The Esenwein, another temporary hotel near the Exposition site, is designed to accommodate 3500 guests. The Iroquois and Mansion House, which are permanent hotels in the business district of Buffalo, will accommodate 1500 each. The Lift House, also in the business portion, will house 1000, and the Genesee and Broezel 800 each. In addition to the hotels there are numerous boarding-houses, and many private houses will take in guests during the time that the Exposition is running. The exhibition buildings and grounds are well advanced towards completion and when May comes it is expected that all will be ready. A feature of the Exposition will be the portion devoted to science and medicine. Buffalo contains much of interest to medical men; it has an excellent medical university attached to the city hospital, besides another large and flourishing medical school and several hospitals, including one of the large State hospitals for the insane.

Sing-Sing Prison.

This institution for criminals of New York city, the buildings of which were erected in the year 1834, has long borne an evil reputation for unhealthiness. Latterly the prevalence of typhoid fever on a large scale among the prisoners has brought the question of the unhygienic state of Sing-Sing prominently before the public. The attention of the State Board of Health of New York has been called to the matter, and it seems, as a result of an investigation undertaken by the board, that the old prison is doomed to be either destroyed or put to some other use. Mr. Charles F. Wingate, consulting engineer to the State Board of Health, made an exhaustive examination of the sanitary conditions in Sing-Sing generally and of the sewage system in particular. The state of affairs that he discovered can only be characterised as appalling. He found that the prison cells were but four feet above tide-water (Sing-Sing is situated on a bank of the Hudson about 30 miles from New York city) and that the sewage emptied into the Hudson at low tide backs up under the prison buildings. He also condemned the whole of the

plumbing system. Typhoid fever has been rife among the prisoners, there being more than 40 cases at one time, with two or three deaths, within the past three months. Acting upon the report of Mr. Wingate, the Prison Association has recommended in a special report to the Legislature that the prison buildings should be entirely removed and that a completely new penal establishment should be erected elsewhere. The report of the committee of the Prison Association states that the insanitary condition of Sing-Sing consisted in excessive dampness, the absence of sunlight, insufficient ventilation, and bad drainage.

The Pan-American Medical Congress: The Etiology of Yellow Fever.

At the Pan-American Medical Congress recently held in Havana the paper which received the most attention was that of Dr. Walter Reed, surgeon in the United States Army, on Yellow Fever and its Probable Propagation by Mosquitoes. The theory that the mosquito plays a leading part in the dissemination of yellow fever, although by no means new, has, it appears, received striking confirmation from the investigations of Dr. Reed and his colleagues, Dr. Carroll and Dr. Agromonte. When Dr. Reed first brought forward the proposition that the mosquito, as in malaria, acted as the intermediary host for the transfer of yellow fever from one patient to another, and that furthermore the bite of the mosquito was probably the only cause of infection, the announcement was treated with a certain amount of scepticism by many in the profession. However, later researches would seem to have clinched the argument in favour of this theory, and it is more than likely that experiments will result in conclusive proofs. The discovery that mosquitoes are chiefly instrumental in spreading both malaria and yellow fever would be of inestimable importance and would almost mark a new epoch in medicine.—Another paper of great value read at the Havana Congress was that by Dr. Walter Wyman, Surgeon-General United States Marine Hospital Service, upon Sanitation and Progress. Dr. Wyman takes the common-sense view that sanitation in many countries has not kept pace with scientific knowledge and declares that the problem of how to improve the sanitary condition of the poor quarters, to prevent the increase of foul, damp, dark, and overcrowded dwellings, and thus lessen the burden of the community without still further pauperising the people and attracting to the place other vagrants and criminals, is one of the most serious that confronts modern civilisation and municipal government. Dr. Wyman is of the opinion that a class of men to whom we should look for aid in advancing hygienic measures are the men of extreme wealth and believes that their attention should be directed to the vast amount of good to be done by the employment of their capital in backing up sanitary improvements. "The methods by which such men may assist in public sanitation may not be so obvious or numerous as other methods of advancing the public welfare. Yet the influence of a man of great wealth could be distinctly felt in the advancement of sanitary legislation and in the perfection of sanitary administration. Moreover, the use of large capital in the improvement of the dwellings of the poor appears to be as noble and sensible a method of the employment of capital as can be found." The housing of the New York poor is as bad as anywhere in the world and is undoubtedly a potent cause of sickness. Dr. S. A. Knopf speaks on the situation as follows: "The present condition of the tenement houses in New York is so serious that the evils arising therefrom are a distinct menace to the welfare of the community. There are at present over 44,000 tenement houses in the old city of New York and new tenement houses are being erected at the rate of about 2000 a year. These are in many respects worse than the old buildings erected 30 years ago. They are badly constructed and so planned that many rooms depend for their light entirely upon long, narrow, dark air-shafts, which instead of giving light and air are merely stagnant wells emitting foul odours and diseases." The tendency of modern medicine is rather towards prevention than cure. The very first steps towards prevention must be to enable all to live under satisfactory health conditions. While the poor in most large cities are housed as at present it is impossible to prevent disease. The fact must also be borne in mind that an insanitary area in a town is a source of contagion and a menace to the rich as well as the poor. Thus it is false economy on the part of the wealthy to ignore the unfortunate position of the indigent; it would be wiser policy on their part to expend some of their money in making it possible for every individual to live under good sanitary conditions.

March 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Medical Society of Victoria: Presidential Address.

DR J. W. BARRETT, the retiring President of the Medical Society of Victoria, departed somewhat from the stereotyped form in his valedictory address. After referring to the continued progress of the society and the interest evinced in its proceedings he remarked on the absurdity of some of the customs of Victorians. Notwithstanding a beautiful, temperate, yet sunny climate, tubercle was too much in evidence. The people lived in villas, sleeping among the more numerous tubercle bacilli in the damper air near the ground and carefully excluded the sunlight by overhanging verandahs and window-hangings. Promiscuous spitting was also very common and should be prohibited by law. Another absurdity was the holiday custom. The maximum temperature in Victoria was reached about Jan. 20th. The State schools broke up about Dec. 20th and resumed about Jan. 20th. February was the most trying month, not because it was the hottest but because the resistance of the individual had been lowered by the previous heat. Why not have the holidays in February? Again, why make Easter fall on a variable date, sometimes in April rains, sometimes in March? Why not fix it for the second week in March and let people enjoy a respite after the heat? The bulk of Dr. Barrett's address dealt with the population problem. He showed that nowhere in the world was found the sudden and great drop in the birth-rate which had occurred in Australasia in the last 15 years. He attributed it to the extensive and deliberate adoption of means for restricting families, and he considered that the so-called "emancipation of woman" was largely responsible for this state of affairs. Practically all careers had now been thrown open to women, while previously marriage was the only one; and ambitious women preferred the business to the old-fashioned career. They might even marry and pursue their profession or business by avoiding maternity. But such a choice on a large scale meant that women were doing that which men could do and leaving undone that which men could not do. No woman now, in bearing a child, thought of the State or of doing it a service, like the old Roman matrons. Medical men should understand the question in all its many-sided aspects and be in a position to give advice, and that advice might be that it was not possible to cheat the Almighty without paying a very heavy penalty—personally and racially. The personal penalty was an old age cramped mentally and morally with attendant neuroses, and in which the individual could not look back to a life fully spent and in which he or she had graduated in all the faculties of human relationships.

Typhoid Fever in Sydney.

The medical adviser to the Sydney Water and Sewerage Board, Mr. T. Mailler Kendall, has presented a report dealing with the incidence of typhoid fever in Sydney during last year. Altogether, he stated, the epidemic had been very severe and the mortality great. The greatest incidence occurred during the first quarter of the year, especially during March, and the least in the third quarter. The largest number of cases—241, or 25·5 per 10,000 of population—occurred in the city itself. Mr. Kendall attributed the prevalence of the disease to deficient sanitary control, both as regards drainage and the removal of refuse.

Sanatorium for Zymotic Diseases at Melbourne.

The new hospital or sanatorium for zymotic disease at Melbourne has just been completed. It is situated at Wode island on the river Yarra, and was commenced during the plague outbreak. The buildings are of the most modern type. Two wards are provided, each with nine beds, isolated from each other and separated also from the quarters of the staff and administrative offices. The floors are of Trinidad asphalte and the whole of the interior of the wards has been so constructed as to admit of thorough cleansing and disinfection. There is also ample provision in the way of disinfecting appliances, bathrooms, and lavatories, and a pathological and bacteriological laboratory has been added. The drainage

will pass into a large tank, from which it will be pumped and thoroughly disinfected before being discharged into the river.

Inebriates Act of New South Wales.

Last session Mr. Creed, M.L.C., succeeded, after repeated attempts, in placing upon the statute-book of New South Wales an Inebriates Act, providing for the establishment of suitable homes for inebriates under proper supervision. Quite a volume of regulations under the Act has just been gazetted. These regulations provide that applications for licences under the Act must be endorsed by any two duly qualified medical practitioners, clergymen, or justices of the peace who have known the applicant intimately for not less than two years. Another provision is that no licence shall be issued for any persons to establish an institution for inebriates until its locality has been declared suitable and the buildings, grounds, and appliances necessary for efficiently carrying on such an institution shall have been inspected and approved by a Government visiting committee and the inspector-general of insane and declared by them in writing to the principal under-secretary to be fully suitable and sufficient for such a purpose. The 42nd regulation is as follows and has been adversely criticised as possibly giving opportunity for maladministration:—

In the event of an inquest being held upon any patient who shall have died at a licensed institution the proceedings thereof shall not be published, nor shall any information with regard to them be furnished to the press for publication by any person unless, in the opinion of the coroner or the patient's next friend or executor, it is necessary for such information to be made public in the interests of justice and then it shall be supplied by the coroner only in any form and to any person he may think fit.

Newcastle Hospital, New South Wales.

The annual report of the Newcastle Hospital showed that satisfactory progress was being made with the erection of the additional buildings forming a nurses' home and operating wing. In the out-patient department the number of attendances had increased from 3718 to 4214. The committee think that "there is greater imposition practised by out-patients than can be detected by the present means of inquiry." The income for the past year was £3308, and the expenditure was £3039. The average cost per in-patient per annum was £54 17*s.* 3*d.*; the average death-rate was 8·19.

Illegal Use of Medical Titles.

At Broken Hill, New South Wales, recently, Mahomed Fandledeen, a native of India, was charged under the new Medical Act (New South Wales) with illegally using the title of "Doctor," and was fined £50, with costs. Two other cases against a man who styled himself "Professor" and a "Chinese doctor," were dismissed. At Collingwood, R. V. Danne was charged with representing himself to be a doctor of medicine while not registered in Victoria. The defendant said that he was prepared to plead guilty and to consent to a fine of £5 and £5 5*s.* costs. The prosecution agreed and a verdict was given accordingly without calling evidence. The defendant gave a remarkable death-certificate recently in a case where an inquest was held—viz., that the deceased was "still-born," and under the heading, "Duration of life," put "a few hours."

Death of Dr. L. E. F. Neill.

The somewhat sudden death of Dr. Leo E. F. Neill from pneumonia came as a great shock to the profession in Sydney, of which he was a most gifted member. He had a brilliant career at the Sydney University, where he graduated in arts before studying medicine and carried off several scholarships and gold medals, chiefly in classics. In his medical course he was equally successful, graduating with honours in 1890. After two years' residentship at the Prince Alfred Hospital he visited America and made himself familiar with the methods obtaining in the leading hospitals there. He then settled in practice and soon earned an enviable reputation for so young a man. He was assistant surgeon at the Prince Alfred Hospital and surgical tutor and assistant surgeon at the Women's Hospital. He was also a great footballer and played in leading matches against the other colonies.

Feb. 8th.

THE annual distribution of prizes to the Volunteer Medical Staff Corps (London Companies) will take place this evening (Saturday) at 8 P.M. Mrs. J. Edward Squire will distribute the prizes.

Obituary.

SIR EDWIN SAUNDERS, F.R.C.S. ENG., F.G.S.

THE death took place at his residence, Fairlawn, Wimbledon Common, on March 15th, of Sir Edwin Saunders at the advanced age of 87 years. It was at his house that the first steps were taken in 1857 to unite together those practising dental surgery by the formation of the Odontological Society. He was the first treasurer of the society and subsequently filled the office of councillor, vice president, and president in 1864 and 1879. He was until quite recently one of the trustees and on his resigning that office he was unanimously elected an honorary member. Sir Edwin Saunders was amongst the earliest to memorialise the Royal College of Surgeons of England with a view to obtaining recognition by examination and diploma for dental surgeons. He, with others, in 1857 established the Dental Hospital of London and Medical School in Soho-square and retained for many years a keen interest in that institution. It was owing to his self-sacrifice and liberality that the building in Leicester-square was equipped and handed over free from debt. He took an active part in the management until it was decided to build an entirely new hospital. With this movement he did not agree and accordingly dissociated himself with the hospital. At the meeting of the International Congress in London in 1886 he occupied the chair of the dental section. He took an active part in the British Dental Association in the early years of its existence and at the meeting in 1886 was the president. For over 50 years Sir Edwin Saunders held the appointment of dental surgeon to the late Queen, and in 1883 received the honour of knighthood. Sir Edwin Saunders was married to Marion, daughter of Mr. E. Burgess, and on the occasion of their golden wedding, as a fitting memorial to his long professional career, his friends presented him with an illuminated address and Lady Saunders with a diamond brooch.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a congregation on March 14th the following were admitted to medical and surgical degrees.

M.D.—J. Gutch, M.A., and W. M. Sing, M.A., Christ's.
M.S.—R. H. Urwick, M.A., Trinity; A. H. Style, B.A., Emmanuel.
M.B. and B.C.—E. H. Coleman, B.A., St. John's.

—Applications for the John Lucas Walker Studentship in Pathology, value £200 for three years, are to be sent to Professor Woodhead by April 16th. Candidates who are not members of the University are eligible.—Several important modifications in the regulations for the M.B. degree are proposed by the Medical Board in a report dated March 11th which has just been published.—Tenders for the erection of the new Botany Schools, amounting to nearly £23,000, have been accepted by the Senate. The building operations will begin forthwith.

NAVAL AND MILITARY EXHIBITION.—With the approval and under the patronage of Earl Roberts, the Commander-in-Chief of the army, the directors of the Crystal Palace Company will commemorate the jubilee anniversary of the Great Exhibition of 1851 by holding in the building which was originally erected by Sir Joseph Paxton in Hyde Park and subsequently transferred to Sydenham a Naval and Military Exhibition in the coming summer. Here will be illustrated the important innovations of the past 50 years in all branches of naval and military warfare. There will also be a series of special displays, comprising tournaments, historical tableaux, and miniature battles. The council of advice is composed of about 300 officers of both services. While affording instruction and amusement to the general public the exhibition should prove a means of helping the families of soldiers dependent upon the various naval and military charitable funds. These institutions have availed themselves of the gift by the Crystal Palace Company of 50,000 guinea season tickets, the entire proceeds of the sale of which will be credited to the particular societies disposing

of them. The tickets are now ready for issue and will be available until April 1st of next year. The proceeds of special concerts and other entertainments will also be devoted to these charities. The date of opening has been fixed for May 2nd and the exhibition will remain open for a period of five months.

AN IN MEMORIAM GIFT.—Miss H. Beatrice Kekwick of Bramcote Lodge, Scarborough, has given £1000 to the Scarborough Hospital and Dispensary, in memory of her father, the late Mr. John Kekwick of Cairnforth, Rotherham.

HEALTH OF BATH RURAL DISTRICT.—At the meeting of the Bath Rural District Council held on March 9th the medical officer of health (Mr. C. Harper) presented his annual report for 1900. This showed that the population of the district was estimated at 28 285, the area being 27,266 acres. The deaths in the 19 parishes were equal to a rate of 11·84 per 1000. The birth-rate corresponded to a rate of 24·35 per 1000.

ROYAL STATISTICAL SOCIETY.—A meeting of this society was held at its rooms, 9, Adelphi-terrace, Strand, W.C., on March 19th, the President, Lord Avebury, F.R.S., being in the chair. A paper, being the essay which was successful in the Howard medal competition of the session 1899-1900, was read by Dr. J. F. J. Sykes on "The Results of State, Municipal, and Organised Private Enterprise on the Housing of the Working-classes in London and other Large Cities in the United Kingdom."

APPOINTMENT OF A MEDICAL OFFICER OF HEALTH.—At the meeting of the Axminster Rural District Council held on March 14th it was reported that there were five applicants for the post of medical officer of health. Each candidate had been required to fix his own remuneration and the gentleman who mentioned the lowest was elected. Mr. G. Evans of Seaton, who had been medical officer of health for 13 years, complained that he had not received any notice of the termination of his engagement, but the explanation was given that the appointment, being a yearly one, expired at the end of the year.

MEDICAL FEES.—At the Truro County Court, held on March 15th, Mr. A. L. Salmon, M.R.C.S. Eng., L.S.A., sued a patient for £11 for professional attendance and medicine. Mr. Salmon had attended defendant from September, 1900, to January, 1901, and had called in Dr. R. H. Clay of Plymouth in consultation. The solicitor for the defence said that he would submit to judgment except in regard to two items—viz., 10s for medicine on Jan. 6th, and 2s. for a visit on Jan. 22nd. The defendant also contended that on three different occasions the medicines were inaccurately dispensed. Judge Granger said that the evidence did not satisfy him that the wrong medicine was sent, and he did not think that a court had ever been asked to take away the character of a professional man on such flimsy evidence. He gave judgment for £11 and costs.

ROYAL INFIRMARY, HULL. In proposing the adoption of the 118th annual report of the committee of the Hull Royal Infirmary at a meeting held in the infirmary buildings on March 14th, Sir James Reckitt, Bart., the chairman, said that for some years past hundreds of patients had been turned away from the institution who ought to have been admitted for treatment if there had been room. In one week 25 patients were sent out of the institution insufficiently cured, but there were other cases of more importance waiting, and they would probably have died if room had not been made for them. It was therefore inevitable that the institution should be increased as soon as possible. A meeting would soon be called for the purpose of making the infirmary a rallying point for some memorial to the life of Queen Victoria the Good. Sir Robert M. Craven seconded the adoption of the report and said that at the present time the hospital was totally inadequate for its purposes. He referred to the difficulty in getting surgeons and said that he did not think that they would succeed unless they increased their salaries. He hoped that the institution would never have a female doctor. He suggested that the whole of the staff should be on the standing committee. He also remarked that what used to be a down-trodden profession was asserting itself and, like the skilled workman, the surgeon demanded payment for his skill and they would have to pay it. The report was adopted.

UNIVERSITY COLLEGE OF SOUTH WALES.—Mr. Alfred Thomas, M.P., has been elected President of the University College of South Wales in succession to Lord Tredegar who has held the office during the last five years and who is debarred by statute from re-election.

BRISTOL UNIVERSITY COLLEGE COLSTON SOCIETY.—At a committee meeting held on March 7th it was stated that during 1900 the subscriptions of this society amounted to £405. In the present year the amount contributed is £422. The committee resolved to grant £400 to University College.

EXETER LUNATIC ASYLUM.—At the meeting of the Exeter City Council held on March 13th it was stated that the cost of maintenance for the Exeter patients in the asylum had been reduced from 12s. 10d. to 10s. 6d. weekly, and thereby £900 had been saved, and that a corresponding reduction would be made in the poor-rate.

APPOINTMENT OF A COLLIERY SURGEON.—Dr. Llewelyn Roberts of Newtown, Montgomeryshire, has been elected surgeon to the Great Western Colliery, Pontypridd, in succession to the late Mr. J. L. Leckie who held the position for many years. The number of men employed in the colliery is over 2000 and they contribute 3d. in the pound of their earnings towards the salary of the surgeon. There were 35 applications for the appointment. A committee of the men selected two of the candidates, and on March 11th and 12th a general ballot of all the colliers employed took place with the result indicated.

LEEDS GENERAL INFIRMARY.—The report for the past year shows a deficiency of over £8000. The cost of each bed occupied was £68 2s. 0½d., as against £64 12s. 2d. in 1899. The average cost of the in patients had been increased partly by their having each stayed one day longer, but the chief reason had been the increase in the cost of living. The coal bill showed more than £700 extra and drugs and surgical dressings £522 extra. The number of out-patients had also increased. The alterations of the old casualty department and the building of the new sitting- and bedrooms for the resident staff had cost £4172. Mr. Charles Lupton made an earnest appeal for funds.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, MARCH 14TH.

Civil Surgeons and Nursing Sisters in South Africa.

Sir ANDREW AGNEW asked the Financial Secretary to the War Office whether the civil surgeons and nursing sisters employed in tending the sick and wounded in South Africa would be entitled to the same war gratuity as those connected with the army.—Lord STANLEY: Civil surgeons, civil veterinary surgeons, and nursing sisters are employed under a definite contract as to pay and are not entitled to any war gratuity.

Medical Attendance for Soldiers' Families.

Mr. ARCHDALE asked the Financial Secretary to the War Office whether the wives and families of soldiers, embodied militia, or reservists serving with their corps, were only entitled to free medical attendance when residing within reach of an officer of army medical corps or of a civil practitioner engaged at military contract rates; and, if so, would he say who was to pay for medical attendance for those who lived outside that distance and were too poor to pay for themselves.—Lord STANLEY: It has been explained to the House before that it is not possible to provide medical attendance for those residing at a distance from military headquarters.

Enteric Fever Infection.

Sir WALTER FOSTER asked the Financial Secretary to the War Office whether he was aware that clothes of men dying in South Africa from enteric fever were returned to this country in a dirty state; and whether, in consequence of the danger of infection now increased by the prevalence of plague in Cape Colony, he would order that the kits of soldiers dying from disease should be thoroughly disinfected before being returned to this country or destroyed and proper compensation made to their relatives.—Lord STANLEY: No clothing of men dying in South Africa is returned to the Clothing Department at home, and nothing is known of any having been sent home privately. In accordance with the Regimental Debts Act the personal effects, except special articles left by will belonging to a soldier dying on active service, are sold by auction on the spot. Special cautionary instructions as to the spread of infection have been sent out.

FRIDAY, MARCH 15TH.

The Vaccination Question.

Mr. LEVY asked the President of the Local Government Board whether, having regard to the declaration of his predecessor in that House on July 20th, 1898, that the administration of a compulsory vaccination law would be neither necessary nor desirable, and the tacit

promise of the same Minister on the same date that the Local Government Board would not do anything to interfere with the relations between vaccination officers and the guardians who employed and paid them, he would withdraw the circular issued by the Local Government Board.—Mr. CHAPLIN: As the question of the hon. Member contains two distinct statements affecting myself, perhaps before it is answered I may be allowed to make a very brief personal explanation. As to the first statement the hon. Member, who is new to the House, is probably not aware that I have repeatedly explained that it referred solely to the concession which was made by the Government on the previous evening. With regard to the second statement I have repeatedly shown that the statement and the inferences which are drawn from it are both of them equally erroneous.—Mr. WALTER LONG: My right hon. friend has dealt with the allegations in the question and it only remains for me to say that I decline to withdraw the circular.

Hospital Provision in the Scottish Highlands.

Mr. WEIR asked the Lord Advocate whether in view of the difficulty experienced in securing suitable hospital accommodation in the poorer districts of the Highlands and Islands of Scotland he would consider the expediency of introducing legislation such as would provide for the establishment and maintenance of hospitals in congested areas.—The LORD ADVOCATE: The Secretary for Scotland would not be disinclined should a favourable opportunity present itself to amend the Congested Districts (Scotland) Act, 1897, in one or two respects and in this event he will consider whether the point mentioned in the hon. Member's question can be provided for.

Civil Surgeons in the Army.

Mr. RANDLES asked the Secretary of State for War, having regard to the fact that the civilian veterinary surgeons at home stations during the war emergency were drawing pay at the rate of £250 per annum and allowances, which brought their pay to over £30 per month, and received a gratuity of two months' pay after 12 months' employment and an extra month's salary for each additional six months' service, (1) could he state what increase of salary and gratuity the Government proposed to pay those civilian medical practitioners who had been engaged at home stations for the last 12 months and upwards at a salary of only £270 per annum; and (2) could he explain why the gratuity of £100 for the first year of service with troops at home and £50 for the succeeding years awarded to civilian medical practitioners holding commissions as medical officers to volunteer corps and militia regiments had been refused to the civilian medical practitioners who offered their services during the war, seeing that the rate of pay to the civil surgeons proceeding to South Africa had been increased from one guinea to one and a half guineas per diem with same allowances and gratuity.—Lord STANLEY, replying on behalf of the Secretary of State, said: In regard to the first paragraph of the question the civilian surgeons and veterinary surgeons employed at home stations are paid at army rates and there is no intention of making any alteration in their pay. In regard to the second paragraph medical officers belonging to the militia and volunteers are treated as officers under army rules, while private medical practitioners are treated according to the terms on which they engage.

Pneumonia on H.M.S. "Britannia."

Mr. EUGENE WASON asked the Civil Lord of the Admiralty whether he was aware that an outbreak of influenza followed by pneumonia occurred on board H.M.S. *St. Vincent* at Portsmouth last year owing to the contamination of the site of her moorings, and that since the moorings had been dredged there had not been any similar outbreak on board the *St. Vincent*; could he state how long she was away from her moorings; and would he cause the *Britannia* to be removed to other moorings, and not to be again moored in the same position until the site had been thoroughly dredged and the accumulation of filth for years removed.—Mr. PRETYMAN: There was an outbreak of influenza accompanied by lung and other affections on board the *St. Vincent* in 1899. The ship was specially inspected at the time by the Medical Director-General; the whole question of her sanitary condition was inquired into and the ship was thoroughly overhauled. There was no evidence that the outbreak was due to contamination at the site of the moorings, but the moorings were in fact dredged because it was found that the ship touched the bottom at low water. There has been no outbreak of any importance since the date named. The *St. Vincent* left her moorings on July 6th, 1900, and returned to them on Oct. 29th. A committee, composed of Sir Henry Norbury (Medical Director-General), Professor Caulfield, Inspector-General Fisher, and Fleet Surgeon May, has been engaged during the last two days in examining H.M.S. *Britannia* and making inquiry into all the circumstances likely to effect the health of the cadets. The committee has now terminated its inquiry and its report is expected immediately. Until that report is received I should prefer to postpone answering the last part of the hon. Member's question, but I may say there is no reason to believe that there is any accumulation of filth under the *Britannia*.

TUESDAY, MARCH 19TH.

Medical Provision at Shoeburyness.

Mr. BARTLEY asked the Secretary of State for War whether he was aware that no provision existed in cases of illness among officers at Shoeburyness, there being no hospital, no arrangement for nurses, and not even a single member of the Army Medical Corps; whether he was aware that this week a young officer who had served in South Africa was taken ill with double pleurisy which resulted in double pneumonia; that he was left in his own quarters where he died, and had it not been for his parents would have had no nursing or medical appliances; that recently, in consequence of an officer developing scarlet fever, the whole batch of officers in that officer's quarters had to be put under tents; and whether immediate steps would be taken to provide a suitable hospital, nurses, and appliances at Shoeburyness for officers when taken ill there.—Mr. BRODRICK. It has not been found possible to provide accommodation for hospital wards for officers at home stations except at Netley and Woolwich and in special cases at Aldershot. Officers, except when suffering from wounds or illness from active service, are only admitted to these hospitals on the recommendation of a medical board. At Shoeburyness there are two medical officers. For the case of pneumonia one day and one night nurse were engaged from the beginning by the medical officer and remained to the last. As regards the case of scarlet fever some young officers residing in the same corridor were very properly removed; it does not appear a hardship that they were placed under canvas.—Mr. BARTLEY: Will the right hon. gentleman undertake that some provision will be made for these severe cases that occur sometimes?—Mr. BRODRICK: This officer was duly attended by the proper medical officer and had a day nurse and a night nurse from beginning to end. I do not in the least admit that in an officer's quarters proper attention cannot be given.

The South African Hospital Commission.

Mr. DALZIEL asked the First Lord of the Treasury whether he could state the amount of salary paid respectively to members of the South African Hospital Commission in addition to the amount allowed for personal expenses.—Mr. BALFOUR replied that a sum of £1250 was paid to each member of the Commission except the chairman.

Mr. DALZIEL asked whether he was to understand that the chairman was not paid.—Mr. BALFOUR replied that the chairman was not paid.

WEDNESDAY, MARCH 20TH.

The South African Hospitals Commission and its Report.

In the early hours of the morning—indeed, shortly after midnight—there was a long debate on the South African Hospitals Commission and its report. The debate arose upon a supplementary vote in Committee of Supply for the expenses of temporary commissions. Mr. BURDETT-COUTTS opened the debate. He laid down these propositions: that the inquiry of the Commission had been partial and imperfect, that its conclusions were lame and impotent, and that its recommendations for reform were framed altogether on wrong lines. The subject, he said, had been investigated in a manner which had thrown a cloak over the true extent and nature of the defects of the Army Medical Department and had concealed the causes of those defects and the responsibility for them. While they had condemned a general for inaction in the field they were content with an inquiry which did not point out the connexion between cause and effect and which failed to push home the responsibility in any quarter. The hon. Member then went on to blame the Commission for not securing powers to take evidence on oath, for accepting the guidance in all its movements of the organisation of the Army Medical Department, and for refusing certain evidence offered it. He condemned the examination of patients in batches while they were still in hospital under the care of officers of the department. In South Africa, he said, nine-tenths of the patients were so examined. In his original complaint he had made a great point of the bad feeding of the convoys by train, but while this was so out of 154 patients examined only seven were asked any questions as to their feeding while in train convoys and four of these said what he had always maintained—that they hardly ever had anything but bully beef and biscuits. As for the reform of the medical provision of the army, he appealed to the Secretary of State to go outside this report in framing his scheme. If there was an era in which not so much new legislation was necessary as that we should set our house in order, and if for that purpose a full, relentless, and searching examination of its defects were necessary, then the worst model they could take for such an investigation and the weakest and rottenest basis of reform was this farce of an inquiry for which Parliament was now asked to pay.—Mr. DALZIEL quoted from the report and argued that the Army Medical Department had proved inadequate for the work of the campaign.—Sir WALTER FOSTER submitted that the report was tantamount to an admission of the case made out before the appointment of the Commission. If they analysed the figures in the report and examined the other material they would find a very grave condemnation of the medical arrangements. The only recommendation of the Commission was that there should be appointed a Committee to do the work the Commission had not done. The object of the Commission was not to prepare a defence of the Army Medical Department but to inquire into the care and treatment of sick and wounded. The Royal Army Medical Corps had not been attacked in this House. Members had fully recognised that the Corps had done as well as it could do in the circumstances, and probably it had done as well as any other department of the army, but the Royal Army Medical Corps was unequal to the demands made upon it. Civil surgeons had to be relied upon largely, and the number of these civil surgeons employed gave some measure of the deficiency which would have to be made good in the Royal Army Medical Corps.—Mr. BRODRICK said that the question before the House was simply the question of how the Commission had performed its duties. There was no doubt that the Member for Westminster (Mr. Burdett-Coutts) had made a most vehement attack upon the character of the inquiry and the principles brought to bear upon it by the Commissioners. In the few words which he (Mr. Brodrick) proposed to say he would like to ask the House, as a matter of common sense, upon what grounds were these sinister motives imputed to this Commission. Supposing, as the hon. Member had suggested, there had been a determination to shield the Royal Army Medical Corps, to burke the intended inquiry and to report something which might be favourable to the authorities, what could be the motive of these independent gentlemen, not one of whom had anything whatever, so far as he knew, to gain from the Government in the matter, who were absolutely independent of all Government influence, and who were themselves gentlemen of high character—what could be the motive which would induce them to act in the manner which the hon. Member believed they had acted throughout this inquiry? He held no brief for the Commission. They were a body of high-minded gentlemen who had given an immense amount of hard work without any remuneration of any sort or kind. They had travelled many thousands of miles, and they had simply taken up this business for a public purpose and with the honest intention of reporting on the state of things they found. If their report was not altogether satisfactory to his hon. friend and other Members of the House he could only say that so far as he was concerned he was not bound by the four corners of the report. In the nature of things it could not be an exhaustive report. It was not an accurate statement to say that the Commission had recommended the appointment of a Committee to do the work which they themselves were appointed to do. The Commissioners were appointed to consider and report upon the care and treatment of the sick and wounded in the campaign. They might or might not have carried out that charge to the satisfaction of hon. Members, but he thought they were fully justified in their recommendation that a Committee should be appointed to inquire and report upon the steps necessary to put the Royal Army Medical Corps upon a proper footing. He thought that the Members who had spoken had pressed the matter against the Commission in

some respects a great deal too far. But at this hour he was not going to weary the House by trying to discuss the points in detail. As a matter of fact, he had been so busy with other work recently that he had not been able to go into the subject of this report very deeply. He did not wish to make any gulf between himself and those Members who did not think this report the best medium for the commencement of a reform of the army medical service. He would remind the House, however, that the shortage of the Royal Army Medical Corps lay as much at the door of Parliament as of any other body. He did not think they ought, looking at this matter quite impartially, to cast an unmerited slur upon men who had tried to do their duty properly according to their light. Nor did he think it ought to be supposed for a moment that a Commission appointed to discuss the care and treatment of the sick and wounded during the campaign could cover the whole ground or be their only guide as regarded the future of the army medical service. He would also ask the House to believe that he was not looking in the reorganisation of this service for salvation either to this Commission alone or to the *personnel* of the Royal Army Medical Corps alone. He was perfectly aware that the past of the Royal Army Medical Corps had been unsatisfactory in two respects. First of all they had had far too small a choice of men to bring into the corps, and until they could remedy that defect they should not get an efficient service, and in the second place they had had far too little elasticity in the service. He assured the House that he approached the subject with a perfectly open mind. He did not feel at all certain that they could build altogether upon the existing foundation. They would not limit themselves to any official sources for inspiration in the reorganisation of the corps and he was not in the least without hope that before very long the steps that they were about to take would enable them to bring before the House a scheme which would give them, what they were determined to have, a really effective Royal Army Medical Corps.—Several Irish Nationalist Members continued the debate, among the number Dr. THOMPSON, who bore testimony to the devotion to duty and hard work of the members of the Royal Army Medical Corps and insisted that if there were any blame in the matter it was to be attributed, not to the members of the corps, but to the system under which they had to work.

ROYAL COMMISSION ON ARSENICAL POISONING.

WEDNESDAY, MARCH 13TH.

THE Royal Commission on Arsenical Poisoning met on March 13th, in the Westminster Palace Hotel, London, and proceeded with the examination of witnesses. Lord KELVIN occupied the chair and the other Commissioners present were Sir William S. Church, Sir William Hart Dyke, M.P., Professor Thorpe, and Dr. B. A. Whitelegge, with Dr. G. S. Buchanan, secretary.

Evidence of Dr. George Reid.

Dr. GEORGE REID, medical officer of health of the county of Stafford, was the first witness examined, and in reply to the Chairman he said that the administrative county of Stafford was divided into 57 sanitary districts, of which 38 with a population of 677,968 were urban districts, and 19 with a population of 229,143 were rural districts. There were 50 medical officers of health in the administrative county, seven of whom acted for joint districts formed in each case by the union of two authorities. As it seemed desirable, so far as clinical evidence was concerned, to cover the geographical county, he appealed to medical officers of health of the county boroughs as well as to those of districts within the administrative county for information and in every case he obtained very full information. As time was of importance, it was not found practicable to communicate direct with every medical practitioner in the county, but he suggested that this should be done locally by the different medical officers of health, and in most cases he believed his suggestion was acted upon. He thought it desirable, however, to make an exception in the case of members of medical staffs of the general hospitals in the county, of which there were 14. In this way he obtained information about a large number of cases—altogether 667 from the county. Samples of beer were taken and as the results of the analyses were reported the clerk of the county council communicated with the implicated beer-sellers, intimating that they would incur a serious responsibility unless they discontinued the sale of arsenical beer, and witness visited the implicated breweries in order to ascertain what steps the brewers proposed to take to put a stop to the sale of the arsenical beer and to obtain what information he could as to the source of the arsenic. In the case of two breweries, one in Manchester and the other in Liverpool, he communicated with the medical officer of health of those cities, but he included among his visits four breweries in Shropshire adjoining the Staffordshire boundary. Without exception the brewers afforded him every information, and each brewer was either actually engaged in calling in the contaminated beer or had already done so. He believed this was thoroughly done in most cases, either voluntarily or in consequence of his visit, though in many cases large quantities of arsenical beer were retained in the hope of obtaining a return of the duty. This involved some amount of risk, and in one instance at least which led to a prosecution the beer after being interdicted by the brewer was sold by the tenant of a tied public-house. He thought it was unfortunate that the Inland Revenue Department did not at once intimate whether or not the duty paid would be refunded. Altogether, 140 samples of beer were analysed in the first stage of the inquiry, and of these 15 were found to be decidedly arsenical and seven very slightly so. 11 samples of glucose and brewing and other sugars were analysed, and two of the first-mentioned, both obtained from the same manufacturer (Bostock), were found to be arsenical. The amount of arsenious oxide in the contaminated beers varied from a trace (well under one-twentieth of a grain per gallon) to just over half a grain per gallon. The 140 samples of beers analysed were collected in 28 different sanitary districts from 140 distinct sources, and they represented the beers of 80 brewers, including 26 which were home brewed. He might mention that only in one instance did they fail to trace the contamination of the beer to the use of Bostock's glucose. The exception was a brewery in Shropshire and in that case they did not succeed in tracing the source of the contamination, the brewer assuring witness that he had not used Bostock's glucose within the last 12 months. Of the 667 cases tabulated by witness 290 occurred in Lichfield (rural), 91 in Lichfield (urban), 88 in Darlaston (urban), 69 in Stone (urban), 31 in Brownhills (urban), 14 in Cannock (urban), 13 in Tipton (urban), five in the County Borough of Hanley, four in the County Borough of Walsall, and four in Stafford (urban). He had no official knowledge of any fatal cases, but from what he could ascertain one, if not two, deaths might have occurred. One remarkable and, from a clinical point of view, instructive fact had been demonstrated by the inquiry in Staffordshire—namely, that whereas at least 67 per cent. of the cases were attributable to one implicated brewery, another and larger implicated brewery, supplying a much larger population, did not give rise to recognisable cases of illness calling for medical treatment. In the first case the quantity of arsenic per gallon of beer was found to be a little over half a grain, while in the latter case only one-tenth of a grain was found. In both cases it so happened that the quantity of glucose used to malt was 20 per cent. and the amount per gallon 5·1 and 5·6 ounces respectively; but whereas in the former case one glucose only (Bostock's) was used, in the latter the brewer used a mixture of equal parts of three different glucoses, only one of which was Bostock's. Thus, while the actual quantity of glucose used was very much the same in both cases, the relative proportion of arsenical glucose per gallon of beer was 5·1 and 1·8 ounces respectively, a proportion which was consistent with the quantity of arsenic found in the two beers. As it would appear, then, that thousands of persons for an unknown period had been drinking beer containing one-tenth of a grain of arsenic per gallon without suffering any effects sufficient to call for medical attendance, the question arose, Was this the first occasion on which arsenical beer had been brewed, and might not some illness have previously occurred which, in view of what we now know, might have been attributable to arsenical poisoning? After an interval of about four weeks—about the end of the third week in January—a systematic collection of samples was again undertaken, attention being specially directed to the public-houses supplied by the previously implicated brewers. As the outcome of this second collection 43 samples of beer, 10 of confectionery, and five of golden syrup were analysed, and all were found to be free from arsenic. Circulars had also been addressed to most of the medical practitioners who had previously reported cases, and from the replies received it would appear that 60 of the original patients were still suffering from the symptoms. A few fresh cases were also reported by two medical practitioners, but from subsequent inquiry he was by no means satisfied that the cases were of recent origin. He doubted whether one-fiftieth of a grain of arsenic taken every day in food would produce symptoms, but in his opinion it would be very undesirable to have one-fiftieth of a grain in a gallon of beer. Questioned on the subject of future preventive measures Dr. Reid made the following statement, viz.:—In the first place, as the use of wholesome glucose in brewing is not injurious from a health point of view, and if it be a fact that, in this country at any rate, its use facilitates the brewing of light beers, it would seem to be a mistake either to prevent its being used or to impose any conditions which might, in view of the ignorance of the public regarding the question, lead to beers of a heavier quality being consumed. At the same time, effective steps should be taken to guard against any such unfortunate calamity as has recently been experienced, and I would suggest:—

(*a*) That no glucose or invert sugar shall be manufactured with sulphuric acid unless the acid has been made from sulphur and is arsenic free, and that the brewer shall obtain a guarantee to that effect from the sugar manufacturer with each consignment.

(*b*) That the Inland Revenue Department shall be called upon to exercise control over the quality of brewing materials from a health point of view by its being made part of the routine duty of excise officers to see that the above guarantee has been obtained and to periodically collect samples of such materials for analysis by the Somerset House officials.

(*c*) That such precautionary measures, combined with the exercise of the powers already possessed by sanitary authorities under the Food and Drugs Act, combined with additional powers enabling such authorities to seize and destroy contaminated beer, should suffice to prevent the possibility of a similar occurrence in the future and afford a satisfactory guarantee to the public that their interests were being looked after.

By Sir WILLIAM S. CHURCH: He understood that sulphuric acid made from sulphur was not likely to contain arsenic and that was the reason for his first suggestion.

By Professor THORPE: He thought that the public were entitled to have an assurance that every precaution would be taken in the future and they would not have that assurance if they realised that a substance was being used which, previously to its use, required a process of purification. His opinion in this connexion would not be altered if it were shown that by far the larger number of glucoses and inverts were made from pyrites, purified from arsenic and that these substances were free from arsenic.

Dr. Thomas Stevenson Examined.

Dr. THOMAS STEVENSON, Vice-President of the Chemical Society and of the Institute of Chemistry, lecturer on forensic medicine at Guy's Hospital and scientific analyst to the Home Office, was next examined. In the course of his evidence he stated that he went to Manchester early in the epidemic. On Nov. 28th he inspected the dead bodies of two women in the Crumpsall mortuary, saw and examined a considerable number of men and women in the Crumpsall Infirmary, and arrived at the conclusion that the patients were suffering from chronic arsenical poisoning and that probably the two women who were there dead had died from arsenical poisoning. He obtained viscera from the bodies of the two women referred to and from three other women and submitted them to analysis for arsenic and other mineral poisons. He ascertained that the five women had all been drinkers and four of them had drunk beer largely. The histories of the two women, their symptoms, and the post-mortem appearances externally, such as pigmentation rashes and the excessive accumulation of epithelial scales, all pointed to arsenic. In four of the five bodies arsenic was found in the viscera; in one

case only in notable quantity; in three cases in minimal amounts. Alice Booker died six days after ceasing to drink beer; 13¼ ounces of her viscera yielded 0·011 (one-ninetieth) grain of arsenic calculated as arsenious oxide—or 0·0002 per cent. This was an appreciable proportion. Mrs. Thompson died 32 days after ceasing to drink beer. Her viscera yielded arsenic in detectable but unweighable amount. In the case of Alice Riley, who died 14 days after ceasing to drink beer, and in the case of Margaret McCabe, who died 52 days after ceasing to drink beer, similar traces of arsenic were detected. In the case of Mary Jane Dyer, who died 23 days after ceasing to drink beer, no arsenic could be detected, though the symptoms during life were those of arsenic. She was obviously a heavy drinker and the organs showed the effects of advanced alcoholism, more especially in the liver and kidneys. Dr. Dixon Mann obtained comparable results on analysing other portions of the viscera of the five women. The analyses were conducted separately, but before the inquest he and Dr. Dixon Mann compared their results and found them substantially the same. It was interesting to note for what lengthened periods arsenic remained in the body. Ordinarily arsenic might be detected in the urine of persons to whom arsenic was administered very soon after it was taken, and for from one to three weeks after it had ceased to be taken. Exceptionally it might be found in the urine after longer periods. Obviously, as arsenic was largely excreted by the skin as well as by the urine, the fact that arsenic could no longer be detected in the urine was not proof that there was none present in the body. One remarkable symptom of those suffering from beer-poisoning which he observed was the pigmentation of the skin, which was pretty generally observed among the patients. When arsenical neuritis followed acute arsenical poisoning such pigmentation was by no means general. It had been asserted, denied, and re-asserted that arsenic lingered for lengthened periods in the bones of those to whom it had been administered. Others asserted that it remained longer in other organs than in the bones. Nothing definite could be asserted as to this beyond the fact that it lingered longest in the extravascular parts, such as the epidermis. It was even asserted that arsenic was a normal constituent of the human body, notably of the thymus and thyroid glands, and the skin. That arsenic was occasionally found in minimal amounts in the human body he knew from his own analyses, but he was of opinion that its presence was adventitious. It was not easy to ascertain that a person had never taken arsenic medicinally, and when one considered the innumerable avenues—food, drink, water, and the atmosphere—by which arsenic might be ingested it was not necessary in order to account for its presence to assume arsenic to be a normal constituent of the body. He could assert that in the majority of cases where he had tested various organs of the body for arsenic he had found none. Among the cases submitted to him by the Home Office and the Treasury he had occasionally found a little arsenic, but it was exceptional. He could not say that he had found it in the viscera of a healthy person. In consultation he saw a girl in Somerset who had been poisoned by arsenic. She had marked neuritis, could not walk, but he could discover no pigmentation in her skin. In another case a lady had had several doses of arsenic administered, and though she was very ill and her life was in danger she had no pigmentation. In the Hyères epidemic, where wine-drinkers were affected, pigmentation was a marked feature and, of course, pigmentation was known in connexion with arsenic given medicinally.

By Sir WILLIAM S. CHURCH: Arsenic was a poison which had engaged his attention very frequently clinically, pathologically, and analytically. Very frequently the symptoms that indicated arsenical poisoning were connected with the stomach and the intestines. The absence of gastric symptoms was calculated to make medical men slow in recognising that the case was likely to be one of arsenical poisoning. As to pigmentation there could be no doubt that when attention was called to this many patients were stripped and pigmentation was found in cases where it had not been expected. Except that it was very pronounced the neuritis did not appear to him to differ very much from what they had been acquainted with under the name of alcoholic neuritis. The general appearance of the patients was almost indistinguishable from what they would call alcoholic neuritis. The only patient whom he saw in a dying condition was in Crumpsall Infirmary and the patient was dying apparently from paralysis of the diaphragm. This year he had had to deal with a case of arsenical poisoning in which five out of seven or eight in one family were affected, and in that case he found extensive fatty degeneration without very great enlargement of the organ involved. The enlargement that had been so common in these cases in Manchester and Liverpool pointed to the probability of their being alcoholic as well as arsenical.

By Dr. WHITELEGGE: Do you regard alcohol as being a predisposing cause to arsenical poisoning?—I have had no opportunity previously to this epidemic of observing that.

In further examination Dr. STEVENSON said that exceptionally perhaps many articles of food might contain arsenic. The use of manures in the preparation of which arsenical sulphuric acid was employed must increase the chances of the admixture of arsenic with vegetables. Arsenic was said to have been found in cruciferous plants, such as turnips and cabbages, and even in potatoes. Many chalybeate waters were arsenical and the ferruginous deposits from waters that were good for drinking purposes often contained arsenic, even when the water itself was practically arsenic-free. Rivers from which drinking-water was obtained might contain arsenic, which frequently was cast into rivers from tanneries. Again, the application of arsenical substances to such things as apples and wines to destroy blight must result in the occasional ingestion of arsenic into the human body. The common use of arsenical sheep dips brought in the risk of introducing arsenic into our food supplies. Arsenic was given off during the burning of coal and coke containing arsenic. Soot was decidedly arsenical, and the soot-laden air of our cities was not destitute of arsenic, nor were smoked articles of food, such as ham, kippers, &c., chops, and grills. The method of preserving food by the use of borates introduced arsenic into food. He had met with no borax of commerce or boric acid quite free from arsenic. As these substances were used in the preservation of milk, cream, fish (fresh, salted, and dried), game, and even fresh meat, they had here another source of arsenic in the human body. He mentioned these sources of the introduction of arsenic into the body, not that he thought significant quantities of arsenic were thereby ingested, but to point out that some allowance must be made and some agreement come to as to the quantity of arsenic which was permissible in articles of food, drink, and drugs. There was a very varying susceptibility to arsenic among individuals. By far the larger number of adults could bear eight-minim doses of liquor arsenicalis three times a day for several weeks without the supervention of toxic symptoms—i.e., a dose of 0·22 grain arsenious oxide per diem. A few people could tolerate only a fraction of that amount without the appearance of distressing symptoms. But the same idiosyncracy was met with as to many drugs—chloral, opium, mercury, potassium iodide, &c., and even with respect to articles of food—onions, ginger, bananas, shell-fish, pork, and so on. In laying down restriction as to arsenic in food the idiosyncracy of persons with respect to it could not be fully met. He believed that 0·05 (1 20th) grain per diem was in the great majority of cases a safe quantity. As to the accumulative action of arsenic he wished to remark that the term cumulative, or accumulative poison, was a relative one. All poisons were, in a sense, cumulative. Even the rapidly excreted alkaloids, such as strychnine, showed a cumulative action when small safe doses were given at too brief intervals—i.e., before the major portion of the previous dose had been excreted. Arsenic was no more cumulative than other poisons which, like it, were rapidly excreted. When it was given in repeated small doses either tolerance was established—apparently a very rare occurrence—or input and output of the drug were balanced before a fatal dose accumulated in the body, or a toxic amount was retained in the body before input and output were balanced. If the daily dose were 0·22 grain—the ordinary full dosage—and one-fifth of the amount absorbed in the body were excreted per diem, when there was 0·9 grain in the body the input and output per diem would be balanced; and this condition would be arrived at in a fortnight. If, on the other hand, the daily excretion of arsenic were only one-tenth, input and output would be balanced when the body contained two grains; and this condition would be reached in about three weeks. But two grains might be a fatal dose. Certainly in the majority of cases in which arsenic was administered the daily excretion exceeded one-tenth of the arsenic taken. Dr. Stevenson, in conclusion, dealt with the detection of arsenic in beer and its quantitative determination. He gave the reasons which induced the Brewers' Commission to recommend the use of Reinsch's test. This test, he said, caused the rejection of beers containing more than one part of arsenic per 2,000,000 of beer, about one-thirteenth grain per gallon, and in skilled hands, he added, its delicacy was even greater than that. Using this test he found that by far the larger proportion of beers sold in London to the southern counties were arsenic-free, but that beers sold in several parts of the kingdom contained small quantities of arsenic—generally proportions which would not as he believed prove injurious to health.

The Commission then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ABBOTT, C. E., M.R.C.S., L.R.C.P., and L.M. Irel., has been appointed Medical Officer to the No. 1 District of the Cheltenham Union, vice Beavan, deceased. Also Civil Medical Officer for Examining Army Recruits for Cheltenham.

ADAMS, JOSEPH DIXON, M.D. St. Andrew's, M.R.C.S., L.S.A., has been re-appointed District Medical Officer by the Langport (Somerset) Board of Guardians.

AHERN, JOHN M., L.R.C.P. Irel., L.R.C.S. Irel., L.M., has been appointed Assistant Medical Officer to the Warneford Asylum, Oxford.

BERRY, FREDERICK CHARLES, B.A., M.D., B.Ch. Trinity College, Dublin, has been re-appointed Medical Officer of Health for Burnham, Somerset.

COWAN, J. J., M.B., C.M. Edin., has been appointed District Medical Officer, Upton-upon-Severn Union.

ELLIOTT, C. N., M.B., M.Ch. Dubl., has been re-appointed Medical Officer of Health for the Thrapstone Rural District.

FAIRHALL, G. V. HAMLYN, M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Royal Alexandra Hospital for Sick Children, Dyke-road, Brighton.

FLETCHER, JAMES, M.B., C.M., D.P.H. Aberd., has been appointed Medical Superintendent to the Bristol City (Fever) Hospital.

FOX, T. C., M.B. Lond., F.R.C.P., M.R.C.S., has been appointed Dermatologist to the Bridge School, Witham, Metropolitan Asylum District.

HARPER, CHARLES, L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Bath Rural District Council.

HUTCHINSON, J. A., M.D. Durh., M.R.C.S., has been re-appointed Medical Officer of Health by the Northallerton Rural District Council.

INGLE, CHARLES D., L.R.C.P. Lond., M.R.C.S., has been re-appointed District Medical Officer by the Langport (Somerset) Board of Guardians.

KENNISH, T. L., M.D. Edin., has been re-appointed Medical Officer of Health, Winslow, Bucks.

KINGSFORD, B. H., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Certifying Factory Surgeon for the Woking District of Surrey.

LANGRAN, WILLIAM, L.R.C.P. & S. Edin., L.A.H. Dubl., has been appointed Medical Officer of Health by the Axminster Rural District Council.

LAWTON, F. C., M.R.C.S., has been appointed District Medical Officer, Malmesbury Union, vice W. R. Tolerton, resigned.

LINDSAY, F. W., L.R.C.P., L.R.C.S. Edin., has been re-appointed Honorary Surgeon, Victoria Eye and Ear Hospital, Hereford.

MAHOOD, ALLAN R., M.B. Irel., F.R.C.S. Eng., has been appointed Surgeon to the Bideford Infirmary.

MCLACHLAN, A. R., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Superintendent of the Infirmary, Brentford Union, and Assistant Medical Officer of the Schools, vice J. H. Reynolds, resigned.

MENZIES, J. M., M.B., C.M. Edin., has been appointed Medical Officer of Health, Long Sutton Urban District, vice R. Parkhurst, resigned.

MUDGE, ZACHARY BELLING, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Philiack (Cornwall) Urban District Council.

NANCE, H. C., F.R.C.S. Eng., has been appointed Surgeon to the Jenny Lind Infirmary for Sick Children, Norwich.

PITTS TUCKER, F. A., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer, Ely Union, vice M. J. Tulk, resigned.

RENSHAW, I., L.D.S. Irel., has been appointed Dentist to the Cottage Homes, Rochdale Union.

RICHARDS, S. H., M.B., C.M. Edin., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed District Medical Officer, Middlesborough Union, vice W. Knott, resigned.

ROBERTS LLEWELYN, M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Great Western Collieries, Pontypridd, vice J. L. Leckie.

SANDOE, JOHN WORDEN, M.D., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Broadclyst District of the St. Thomas's (Exeter) Union, vice James Somer, resigned.

SCARR, JOHN, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer to the Cottage Homes, Rochdale Union.

SMALLWOOD, M. E., L.R.C.P. Lond., M.R.C.S., has been appointed Second Assistant Medical Officer to the Infirmary, parish of St. Leonard, Shoreditch, London.

SPRAKELING, R. J., M.R.C.S., has been re-appointed Medical Officer of Health for the Borough of Bootle.

STANSFIELD, F. W., M.D., Ch.B. Vict., D.P.H. Camb., has been appointed Public Vaccinator to the Reading Union, vice O. Lowsley, deceased.

SUTCLIFFE, WM., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer, South-East District, West Bromwich Union, vice H. Sutcliffe, resigned.

THOMAS, DAVID JONES, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Merthyr Tydvil District Council.

THOMPSON, WALTER, L.R.C.P. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Leeds Public Dispensary.

TINLEY, R. F., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Whitby Urban District Council.

WALKER, J. F., L.R.C.P. Lond., M.R.C.S., has been appointed First Assistant Medical Officer to the Infirmary, Whitechapel Union, vice H. G. Ellery, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASYLUM FOR IMBECILES, Leavesden, Kings Langley, Herts.—Senior Assistant Medical Officer, unmarried. Salary £250 per annum, with rations, lodging attendance, and washing.

BRISLINGTON HOUSE PRIVATE ASYLUM, N. Bristol. Second Resident Medical Officer, unmarried. Salary £150, board, lodgings, and washing.

BRISTOL GENERAL HOSPITAL.—Assistant House Surgeon and a Casualty House Surgeon. Salary £50 per annum, with board, residence, &c.

CARDIFF INFIRMARY.—Assistant House Physician for six months, renewable. Salary at the rate of £75 per annum, with board, washing, and apartments.

CATERHAM ASYLUM FOR IMBECILES, Caterham, Surrey.—Medical Superintendent. Salary £800 per annum, rising £50 annually to £900, with unfurnished house, coals, gas, washing, milk, and vegetables.

CHELSEA, BROMPTON, and BELGRAVE DISPENSARY, 41, Sloane-square, S.W.—Honorary Physician.

CHELSEA INFIRMARY, Cale-street.—Temporary Second Assistant Medical Officer, age not to exceed thirty years. Salary at the rate of £70 a year, with furnished apartments, rations, washing, coals, and gas, and £3 10s. a year in lieu of beer.

CORPORATION OF MANCHESTER.—Junior Assistant to the Medical Officer of Health. Salary £200 per annum.

DOVER HOSPITAL.—House Surgeon, unmarried. Salary £100 a year, increasing after 12 months' service, with board, lodging, and washing.

EASTERN DISPENSARY OF BATH.—Resident Medical Practitioner. Salary £130 per annum, with furnished apartments, coals, gas, and domestic attendance.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Two House Surgeons, unmarried. Salaries £110 for Senior and £80 for Second House Surgeon, with board, lodging, and washing.

ECCLESALL BIERLOW UNION.—Resident Medical Officer. Salary £130 per annum, with board, lodging, and attendance.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, W.C.—Resident Medical Officer, speaking French, unmarried. Salary £80 a year, with full board.

GENERAL INFIRMARY, Leeds.—Resident Ophthalmic Officer. Salary £50 a year, with board and lodging.

GLAMORGAN COUNTY ASYLUM.—Junior Medical Officer, unmarried, not over thirty. Salary £150, with board, lodging, washing, and attendance.

GOVAN DISTRICT ASYLUM, Crookston, near Paisley, N.B.—Senior Assistant Medical Officer. Salary to begin at £150 a year, with rooms, board, laundry, and attendance.

GUEST HOSPITAL, Dudley.—Senior Resident Medical Officer. Salary £100 per annum, increasing to £120, with board, residence, attendance, and washing.

HAMPSTEAD HOSPITAL.—Resident Medical Officer for six months, eligible for re-election. Salary at the rate of £120 per annum, with rooms, coals, and gas.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months, with honorarium of £25.

HOSPITAL FOR WOMEN, Soho-square.—House Physician for six months. Salary £30

HULL ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £60, with board and lodging.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

LONDON COUNTY ASYLUM, Hanwell, W.—Dispenser. Salary £110 per annum, rising by £10 a year to £150, with dinner.

LONDON OPEN-AIR SANATORIUM, Pinewood, near Bracknell, Berkshire.—Resident Physician, unmarried. Salary £200, with furnished apartments, board, attendance, and washing.

MANCHESTER PORT SANITARY AUTHORITY.—Port Medical Officer. Salary £350 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence. Also Assistant Director in the Clinical Laboratory. Salary £50 per annum.

NORFOLK AND NORWICH HOSPITAL.—House Physician for two years. Salary £80 per annum, with board, residence, &c.

NORTHAMPTON GENERAL INFIRMARY.—Physician, not under twenty-five years of age.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Dental Surgeon.

PATHOLOGICAL DEPARTMENT, YORKSHIRE COLLEGE, Leeds.—Junior Demonstrator. Salary £120.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodging.

ROYAL SEA BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £60 per annum, with board and residence.

ROYAL SOUTHERN HOSPITAL, Liverpool.—House Surgeon. Salary 60 guineas per annum, with board and residence.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Resident House Surgeon. Salary £80, board, residence, and laundry.

SCARBOROUGH HOSPITAL.—Assistant House Surgeon for three months. Salary £75, with residence, board, and washing; if approved, to be Senior for twelve months. Salary £90, with residence, board, and washing.

ST. MARY'S HOSPITAL, Paddington, W.—Ophthalmic Surgeon.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £24 per annum, with board, washing, and residence.

SUFFOLK GENERAL HOSPITAL.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

TOTTENHAM HOSPITAL.—Honorary Surgeon. Also Assistant Honorary Physician.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Resident House Surgeon, unmarried. Salary £100 per annum, with board, furnished apartments, gas, firing, and attendance.

VICTORIA HOSPITAL FOR CHILDREN, Chelsea, S.W., and the VICTORIA CONVALESCENT HOME, Broadstairs.—House Physician for six months. Honorarium of £25, and board and lodging in the Hospital.

VICTORIA HOSPITAL, Folkestone.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon. Salary £75 per annum, with board, residence, &c.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Assistant House Surgeon for two months, to be followed by six months as House Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Physician for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

WREXHAM INFIRMARY.—House Surgeon. Salary £100 per annum, with board and washing.

Births, Marriages, and Deaths.

BIRTHS.

ALLEN.—On March 17th, at Gipsy-lane, Forest-gate, E., the wife of R. Hugh Allen, M.B., of a daughter.

DUDFIELD.—On March 17th, at Blomfield-road, Maida-vale, W., the wife of Reginald Dudfield, M.A., M.B., of a son.

HUMPHERY.—On March 11th, at Wellgarth House, Armley, Leeds, the wife of Geoffrey Percy Humphery, M.B., C.M., of a daughter.

OWEN.—On March 18th, at St. Alban's-place, Blackburn, the wife of O. Trafford Owen, M.B. Edin., of a son.

SHACKEL.—On March 17th, at Brand House, Ludlow, the wife of G. A. Shackel, L.R.C.P., M.R.C.S., of a son.

MARRIAGES.

HASSALL—LORAINE.—On the 14th instant, at St. John's Church, Chester, by the Rev. Canon Scott, assisted by the Rev. C. Packer, John M. Hassall, M.D., of Northwich, to Sophia Jane, widow of the late George S. Loraine, of Estancia Sta. Maria, Queguay Uruguay.

JAMIESON—MILNES.—On 20th March, at St. Andrew's Cathedral, Singapore, by Rev. D. Holland Stubbs, T. Hill Jamieson, M.B., C.M. Edin., of Penang, to Mary, eldest daughter of J. Milnes, Esq., Huddersfield, Yorkshire.

DEATHS.

ROGERS.—On March 14th, at Upper Baker-street, N.W., William Richard Rogers, M.D., M.R.C.P. Lond., and M.R.C.S., aged 84 years.

SAUNDERS.—On March 15th, at Fairlawn, Wimbledon-common, Sir Edwin Saunders, F.R.C.S., aged 87 years.

WEDMORE.—On the 13th March, at Chapmanslade, Wilts, Charles Ernest Wedmore, M.A., M.B. Cantab., M.R.C.S. Eng., third son of the late Thomas Wedmore, Esq., J.P., of Druids' Stoke, Bristol, aged 50 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PECULIAR PEOPLE AGAIN.

AN inquest held recently at Canning Town on the body of a child, 10 months old, who had died from pneumonia, brought to light most of the circumstances which usually attend the deaths of children whose parents belong to the sect known as the Peculiar People. The child became ill, and so an elderly woman was called in to give advice. The elderly woman was apparently one of the Peculiar People accustomed to nurse members of her sect, while her opinion was valued on account of her age, and she made suggestions as to the child's diet. The child grew obviously worse, and the elder of the Church, who does not appear to have been a witness before the coroner, was summoned, and he, according to the usage of his sect, laid hands upon the child and prayed. So the child died without medical aid, which might have saved the child's life, and as the medical man who made the post-mortem examination very properly declined to say positively and on oath with regard to an infant whom he had never seen alive that if called in he could have saved the infant's life, the jury returned a verdict of "Death from natural causes," at the same time censuring the parents for their neglect. In the course of the inquiry the coroner, Mr. G. E. Hilleary, and one or two jurors tried to rouse in the child's parents a sense of the melancholy absurdity of their conduct, but in vain. For example, to a suggestion that the Bible says, "Those that are sick need a physician," the witness replied, "I beg your pardon, it says, 'They that are whole need not a physician,'" an answer which shows that others besides the enemy of mankind can dislocate and misquote Scripture to suit their own purposes and to support their perversity. We agree with a juror who ejaculated "It's all bosh," but at the same time it is very dangerous bosh and very difficult to deal with. We called attention recently to the law in an American State which forbids persons, who are not scientifically qualified, to pretend to heal disease. It would probably be difficult to deal with the elders of the Peculiar People without importing the element of religious persecution, but it would be much more just that they should suffer than the parents whom they instruct in their views and whose children they pretend to heal. The parents are now held responsible, if anyone is, when a child dies or suffers unnecessarily; when a grown-up person does so neither the elder nor anyone else suffers more than the ineffectual censure of a coroner's jury.

A HARD CASE.

To the Editors of THE LANCET.

SIRS,—I should like your opinion on the following case:—My practice being for sale, a gentleman came to see me, and after going fully into matters agreed to purchase the lease of the house and the practice. The purchaser's father, being a solicitor, prepared all the papers and arranged a day for settlement. Meanwhile a house became vacant almost next door to mine, when the purchaser's father, thinking it a suitable house, threw me over on the day arranged for settlement and took the other house. My solicitor says that I have no redress, having no signed papers, although all was prepared for signature. I believe it will be the opinion of the profession that such action should merit disapproval. I am, Sirs, yours faithfully,

M.R.C.S. ENG.

*** If our correspondent states his exact experience he has been treated very shabbily.—ED. L.

TENBY COTTAGE HOSPITAL AND ITS OUT-PATIENT SYSTEM.

AT the annual meeting of the governors of the above institution which was held on Jan. 25th a discussion arose as to the arrangements for seeing out-patients. They seem somewhat haphazard, or, as Mr. B. Harries, a member of the committee, put it, "There was not much red-tape about the hospital." So far as we understand the report, if an out-patient should come at a day and an hour when one of the medical staff happens to be in the hospital he is seen by the medical man in question. If, however, the patient should come when a medical man is not there he is attended to by the matron. Dr. D. A. Reid, who is a member of the medical staff, said that the medical staff ought to do the work and to attend regularly. The mayor thought that in that case everyone who was sick would go to the hospital and that the practitioners in the town would suffer. Dr. Reid, however, did not agree with this suggestion and proposed that the secretary should communicate with the practitioners in the town and ask them if they would fall in with the scheme. It was agreed that this should be done. In a letter from Dr. Reid, which appears in the *Tenby and County News* of March 6th, it is stated that the three members of the staff who were not present at the annual meeting all declined to support Dr. Reid's ideas. We can only say that to our minds the position is a most unfortunate one. We do not doubt the matron's ability to dress a cut finger or a cut head, but one of these days a cut finger will develop tetanus or a patient with apparently only a cut head will turn out to have a fractured skull from which he will very possibly die. The members of the staff who agree in allowing the patients of an institution of which they are in medical charge to be treated by an unqualified person without their supervision are sailing perilously near the reef of "covering." There is one passage in Dr. Reid's letter to which we are quite unable to agree. He says: "If the subscribers were provided with out-patient tickets as at other hospitals and dispensaries, all fear of the charity being abused would be removed." If this is really the case the hospital subscribers of Tenby must be of a very different nature from those of other towns, for in our experience the average hospital subscriber is only too ready to give a letter to anyone who asks, without any inquiry as to the fitness of the recipient for charitable relief.

RAMPANT QUACKERY.

WE have received from a correspondent the following documents bearing upon a quack business which is carried on apparently in a way by no means creditable to its proprietors: two pages from the *Sydney Bulletin* of Dec. 15th, 1900, and Jan. 12th, 1901, a letter in answer to a correspondent containing a Diagnosis Form, and a little two-leaved circular containing qualifications and testimonials. The documents emanate from a firm of quacks calling themselves "Drs. Freeman and Wallace, Authors, Lecturers, and Scientific Analysts, the World-famed Specialists, Specialties, Nervous and Private Complaints, Blood and Skin Diseases." "Dr." Freeman describes himself as Director of the Freeman and Wallace Electro, Medical, and Surgical Institute, and as of Dr. Harmon's College, Cor. Cal., U.S.A.; while "Dr." Wallace sets forth that he is chief consulting staff, L.R.C.P.E., L.P.S.G., L.M.R.C.E., M.D. Cal. Now with Freeman we have nothing to do, but it is obvious that if Wallace is really what he purports to be the licensing bodies whose diplomas he abuses should take steps to remove him from their roll. The diagnosis form contains the usual mis-statements and 52 questions in all, dealing mainly with sexual hypochondriasis. Question 52 is possibly the most important—namely, "Have you inclosed our fee of £1?" The letter to the patient is, we must say, a very cunningly-worded document. Take the following passage. It commences by saying: "We are forwarding to you by this post a copy of our new pamphlet on Nervous and Private Complaints. ..... If you are in perfect health we trust the work will prove sufficiently interesting to warrant a careful perusal. If, on the other hand, you are in doubt as to whether you require medical advice you should carefully examine your morning's urine; if after remaining stationary for two days and nights it be clear, it is most probable your organs are in a healthy condition, but if not clear you should answer the questions and we will forward our opinion by return of post." We also learn from the advertisement in the *Bulletin* of Jan. 12th, 1901, that "The Freeman and Wallace Electro, Medical, and Surgical Institute consulting staff rise superior to the false code of ethics which tyrannically bind (*sic*) the medical profession ....." Wallace, we may add, claims to have a testimonial from Sir J. Dominic Corrigan. Freeman and Wallace are evidently quacks of the worst type, but there are always fools who will continue to go to such. We have called the letter to the patient a cunningly-worded document; it is worse, it is a lying document, for it implies that the urine becoming cloudy after two days' standing is a sign of disease. Now we have no hesitation in stating that if the urine of 1000 healthy persons were taken and allowed to stand for two days in practically every case it would become cloudy either from alkaline decomposition and deposit of phosphates, or from deposition of mucus or of urates.

LEGITIMATE OR ILLEGITIMATE COMPETITION.

To the Editors of THE LANCET.

SIRS,—In a small country town A sells his practice to B. Immediately on B taking over the practice, A having cleared out, C, a neighbouring practitioner, takes in a partner D and places D in the small town where B lives. I may add that C resides three miles away from D. Kindly give your opinion as to whether C and D have acted strictly in accordance with the usual professional etiquette towards their brother practitioner B.—I am, Sirs, yours faithfully,

March, 1901. JUSTICE.

*** There can be no doubt that C's action, taken immediately upon the departure of A, was directed to obtaining some of the practice recently transferred by A to B; but it is difficult to say that such action is necessarily unprofessional. Medical men are certainly, to some extent, in competition with each other, and we must make allowances for individual views on what is and what is not correct conduct towards a fellow practitioner. Many men would not have liked to do what C and D have done, but as many would consider their course one of legitimate enterprise. In matters where there can be no hard-and-fast law every man must be a rule to himself.—ED. L.

THE PROGRESSIVE MEDICAL ALLIANCE.

To the Editors of THE LANCET.

SIRS,—I inclose a circular which was handed to me in Oxford-street one day last week. It is unnecessary to comment on this from a point of view of professional morality—it speaks for itself, but it is at least a matter for wonder that associations like the Medical Defence Union and others of a kindred character allow such grave abuses to remain without apparently any effort to remove them. In more than one of the London weeklies there are to be seen advertisements of "hospitals" and "dispensaries" managed by "highly and fully qualified medical men," and such advertisements have appeared regularly for some considerable time. Surely something can be done to put a stop to practices

which are a disgrace to the profession and do so much to degrade it in the eyes of the public. Either the statements contained in these circulars are true or they are not. If they are true and the men in charge of these places are really qualified and registered medical men, then no time should be lost in bringing the matter before the General Medical Council with a view to having the names of men who have so far dishonoured their profession struck off its rolls; if they are not, surely it is the business of societies formed for the protection of the profession and the public to expose the falsehood.—I am, Sirs, yours faithfully,

March 15th, 1901. FAIR PLAY.

*** "Fair Play" has come across our old friend the Progressive Medical Alliance. We refer him and others of our readers who may be interested in this institution to THE LANCET of Sept. 29th, 1900, p. 981, and of Jan. 19th, 1901, p. 224. Unless some such steps as we, and "Fair Play" (in the above letter), suggest are taken it is of little use to say anything in these columns about such quack establishments, with a view that is of keeping people away from them. For the class of person who wastes his time and money at the Progressive Medical Alliance does not read THE LANCET.—ED. L.

HOW INFECTION IS SPREAD.

THE gross carelessness and disregard of duty towards one's neighbour which exists among certain members of the community was well exemplified by a case which occurred at Birmingham recently. A woman brought a child for treatment to the General Hospital at Birmingham and the child was at once recognised to be suffering from scarlet fever. The woman, it is reported, was told to stand on one side until the health authorities had been communicated with and the child could be removed to the fever hospital. On the arrival of the ambulance, however, both mother and child had disappeared. She was accordingly sought under the name and at the address which she had given at the hospital, but the address was found to be false, and no one in the street knew anything of either mother or child. However, Mr. Parker, the superintendent of the health department, took up the matter and after diligent search the woman was found and the child was removed to the fever hospital. The room which she occupied was a small attic in a house containing a number of other children. Ignorance is, of course, no excuse in the eye of the law, and we presume that the woman was told at the hospital what was the matter with the child. She is presumably poor, being a hospital patient, but we hope that the sanitary authorities will, as well as taking steps for the disinfection of the house in which she lived, summon her before the magistrate for exposing her child, when, even if on account of her poverty she be not punished, she will learn that no one has a right to expose his or her neighbour to the risk of contracting so severe an infectious disease as scarlet fever.

MALE PROBATIONER NURSES FOR MENTAL CASES.

To the Editors of THE LANCET.

SIRS,—Can you or any of your readers inform me of any hospital or institution where male probationers are taken to train as mental nurses. I am, Sirs, yours faithfully,

March 15th, 1901. H. B.

"MEMORIAL TO THE LATE DR. ARCHIBALD HAMILTON JACOB."

AMOUNT already announced in THE LANCET—£323 7s. 6d.

	£	s.	d.		£	s.	d.
Mr. W. Neale	1	1	0	Mr. W. Stamer	1	0	0
Dr. W. Harrison	0	10	6	Mr. P. O'Donoghue ...	1	0	0
Professor R. J. Anderson	0	10	6	Mr. G. W. Thompson ...	1	0	0
Mr. George McManus ...	0	10	6	Mr. W. P. Walsh	0	10	6
Mr. John Ringwood ...	1	1	0	Dr. J. O'Kelly	0	10	0
Mr. James Taylor	1	1	0	Miss Cahill	1	1	0
Mr. D. O'Sullivan	1	1	0	Mr. P. Dunn	1	1	0
Mr. P. Merrin	1	1	0				

Cheques and postal orders are to be made payable to the honorary treasurers (Sir Charles A. Cameron, C.B., 51, Pembroke-road, Dublin, and Mr. L. H. Ormsby, Vice-President of the Royal College of Surgeons in Ireland, 92, Merrion-square, Dublin), and crossed "Ulster Bank." The honorary secretary is Mr. George F. Blake, J.P., Registrar of the Royal College of Surgeons, Dublin.

THE FRIENDLY SOCIETIES' ANNUAL CONFERENCE.

THE annual conference of delegates from the 33 friendly societies in the United Kingdom was held at Birmingham on March 14th. Mr. J. J. Stockall was in the chair and the vice-chairman was the Rev. Frome Wilkinson. The Lord Mayor of Birmingham attended the opening of the proceedings and welcomed the delegates in the name of the city. Reports were presented by Mr. J. L. Stead and Mr. Cleveland, the conference secretary, who had been appointed to act as arbitrators to meet representatives of the General Medical Council at a meeting which was held in London on March 13th. (We are quoting from the report in the *Birmingham Gazette* of March 15th, but we fancy that the meeting referred to was a conference with the British Medical Association and not with the General Medical Council.) Be this as it may, Mr. Stead is reported as saying that "the doctors' representatives denied that the question of a 'wage-limit' had been settled, so that they were practically in the same position as they were three years ago." After the shorthand report of the reply of the medical men had been read Mr. Sandford (Foresters) moved a proposal urging the meeting to make a firm stand against the wage-limit. Mr. Hulse (Foresters) said that in some parts of the country he regretted that friendly societies did not pay their doctors a reasonable sum. The President said that they had admitted this to the medical men and he hoped that the mention of this fact would induce those societies which underpaid their medical men to do differently. This remark was greeted with "Hear, hear." Finally, Mr. Sandford withdrew his motion, but one was adopted to the effect that the conference could not under any circumstances agree to a wage-limit, while the arbitrators were to be re-appointed to continue the conferences with the medical men.

Despite the resolution about the wage-limit we must say that the meeting showed more hope of some satisfactory decision being arrived at in the future than former meetings have done. It is no light thing for a conference of friendly societies to allow that medical men can be underpaid. But as regards the wage-limit we seem to have arrived at an *impasse*, and we can only hope that the next conference between the societies and the profession will be productive of some good result. If a wage-limit is to be barred why should not a graduated scale of payments be adopted? There is no reason why a working man with 20s. a week should pay the same as one who earns 60s. If the former is to pay 1½d. per week the latter might well be asked to pay at least 4d. per week.

A DEPARTURE IN ANNUAL REPORTS.

WE have received a copy of the twenty-first annual report of the Evesham Cottage Hospital, from which it appears that the hospital is doing good and increasing work. But our attention has been caught by an innovation in hospital reports which merits distinct disapproval. Under the epitome of cases it is stated that 38 successful operations were performed, 18 major and 20 minor. The 38 are then further subdivided by being allocated to four members of the staff, so that the public may learn that Mr. A and Mr. B had two successful operations each, while Mr. C had four and Mr. D the remaining 30. Such publicity must be unpleasant for Mr. D, for laymen can hardly fail to consider that he is 15 times as good a surgeon as Mr. A or Mr. B, and seven and a half times as good as Mr. C. Evesham Cottage Hospital is a small place and the harm done by publishing such a table may be proportionately small, but if hospital statistics of this sort are going to be made public in annual reports great harm and great injustice may follow. In this case we are sorry for Mr. D, who has been advertised at the expense of his colleagues.

Inquirer.—Dr. James Barry, Inspector-General of Army Hospitals, is always described as M.D. She was certainly educated in Edinburgh and was probably an M.D. of that university. The evidence points in this direction though we believe the source of Dr. Barry's degree has not been definitely settled. The Act which brought the Medical Register into existence had not been passed when Dr. Barry joined the Army.

Justicia.—In our opinion the fees should belong to A from the time that the purchase-money is paid. The matter is one for mutual arrangement.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 21st, 1901.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 15	29·76	E.	...	51	44	39	39	41	Overcast
,, 16	29·67	N.E.	0·06	62	45	38	38	39	Raining
,, 17	29·79	N.E.	...	81	50	37	42	45	Cloudy
,, 18	29·59	ENE	...	56	44	37	40	41	Overcast
,, 19	29·54	N.E.	...	77	43	36	36	39	Cloudy
,, 20	29·52	N.E.	0·21	45	42	35	38	39	Raining
,, 21	29·79	E.	0·02	68	43	37	37	40	Cloudy

During the week marked copies of the following newspapers have been received:—*Shields Daily Gazette, Manchester Guardian, Herts Observer, Accrington Observer, Dundee Advertiser, Worcester Chronicle, Liverpool Daily Post, Western Times (Exeter), Dunfermline Journal, Newcastle Chronicle, Yorkshire Post, Birmingham Argus, Warwick Advertiser, Derbyshire Courier, Bristol Mercury, Hereford Times, Kent Messenger, Hampshire Advertiser, Buckinghamshire Advertiser, Bolton Guardian, Stirling Observer, Walsall Advertiser, Glasgow Herald, Western Mail (Cardiff), Hyde Reporter, Cheltenham Press, Cheshire Observer, Sanitary Record, Dalkeith Advertiser, Cambrian Daily Leader, Perthshire Advertiser, Brisbane Courier, Sunderland Morning News, Cape Argus, Evening News (Portsmouth), Mining Journal, Hertfordshire Mercury, Newcastle Daily Journal, Daily Express (Dublin), Reading Mercury, Local Government Chronicle, Surrey Advertiser, Newcastle Daily Journal, Local Government Journal, Banbury Guardian, New York Times, Cornwall Gazette, Ayr Advertiser, Hastings News, Toronto Globe, Gazette des Hôpitaux, Le Courrier de la Presse (Paris), Eckington Express, Stowmarket Courier, Manx Sun, City Press, &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (30th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (25th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish quare, W.).—8.30 P.M. Mr. T. H. Kellock: Two Cases of Abdominal Injury with Rupture of Viscera.—Mr. H. F. Waterhouse: A Case of Lateral Sinus Pyæmia and Cerebellar Abscess with Development of Cheyne-Stokes Breathing and Cessation of Respiration under Anæsthesia, Recovery after Two Operations.

TUESDAY (26th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Paper:—Dr. W. Hunter: A Case of Pernicious Anæmia, with Observations regarding Mode of Onset, Clinical Features, Infective Nature, Prognosis, and Antiseptic and Serum Treatment of the Disease.

WEDNESDAY (27th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Paper:—Dr. W. H. Kelson.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Informal Exhibition of Cases. 5 P.M. Meeting.

THURSDAY (28th).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—3 P.M. Dr. F. Warner: Observations of Children after the Methods of Natural History.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (25th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: The Protection and Nourishment of the Young of the Vertebrata, and some New Additions to the Museum.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Consultation. (Skin.)

TUESDAY (26th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. J. F. Payne: On Cancer, especially of the Internal Organs. (Lumleian Lectures.)

THE BROWN ANIMAL SANATORY INSTITUTION (University of London, South Kensington, S.W.).—5 P.M. Dr. J. Rose Bradford (Professor-Superintendent): The Protozoa in their Relation to Disease, with especial reference to the so-called Tsetse-Fly Disease of South Africa.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—5.30 P.M. Annual General Meeting.

WEDNESDAY (27th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: The Protection and Nourishment of the Young of the Vertebrata, and some New Additions to the Museum.

LONDON THROAT HOSPITAL (204, Great Portland-street, W.).—5 P.M. Mr. C. Woakes: Selected Cases. (Post-Graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Acland: Bronchiectasis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Smith: Consultation. (Surgical.)

THURSDAY (28th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. J. F. Payne: On Cancer, especially of the Internal Organs. (Lumleian Lectures.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Hutchison: A Lantern Demonstration.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Consultation. (Surgical.)

THE HOSPITAL FOR DISEASES OF THE SKIN (Stamford-street, Blackfriars).—3 P.M. Clinical Demonstration: Dr. P. S. Abraham.

FRIDAY (29th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: The Protection and Nourishment of the Young of the Vertebrata, and some New Additions to the Museum.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Tilley: Consultation. (Throat.)

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